The Journal of the American Medical Association

VOL. XXXII. CHICAGO, ILLINOIS, MARCH 18, 1899. No. 11.

Address.

"PHYSICIANS—EXPERT WITNESSES". SOME REFORMS.

Address delivered before the Kansas City Academy of Medicine, Kansas City, Feb. 25, 1899.

BY HENRY WOLLMAN, ESQ.

Of the Kansas City Bar.

KANSAS CITY, MO.

Human testimony is extraordinarily fallible, and judges and experienced lawyers do not permit it, when segregated from the probabilities, from letters, papers, documents and the physical facts, to determine them in their decision as to what is right and what is wrong. But the public—more confiding, more trusting, less observant, far less experienced—does have a very high opinion of the correctness and truthfulness of testimony given in court, but never when it comes to the testimony of experts. That is the subject of everybody's sneer, and the object of everybody's derision. It has become a newspaper jest. The public has no confidence in expert testimony.

In discussing expert testimony, I shall, however, confine myself to the expert testimony of physicians—although what I shall say will apply to a great extent to all expert witnesses—handwriting experts, chemistry experts, and those swiftest of all experts—real estate agents, testifying to value. What I shall say is not intended to apply to the testimony of all physicians. A great many, by the straightforwardness of their testimony, by their truthfulness, candor and impartiality, challenge the respect and admiration of every one. The good things a man does in life, though extending through decades, do not fix his reputation as much as the bad things, though extending only through minutes. Fifty years of right-doing are often forgotten by the public, when it learns of one moment of wrong-doing. So it is with your profession and mine—seldom given full credit for the good the many do, but blamed and held responsible for the wrong-doing of the few. Therefore, it is to your interest, more than that of any one else, to have whatever is reprehensible and discreditable in connection with expert testimony remedied and corrected, and adequate reforms instituted.

In expressing my views here about some of the members of your profession, although they may be your views, I may find myself in the position of a Missourian who went into Kansas many years ago, during the time when James H. Lane was the United States Senator from Kansas, and when, as you all know, it was fashionable for nearly everybody over there to abuse him. This Missourian walked into a group of excited street-corner politicians and heard a great big fellow abusing Lane most vigorously and viciously. This Kansan expressed the Missourian's sentiments to a letter, but the Missourian felt that he ought not to stand by in idleness, so he went at it himself, and he took a few very vigorous shots at Lane's reputation. The Kansan immediately turned around and thrashed him within an inch of his life, and when the Missourian came to, he asked the Kansan: "Why did you lick me; I didn't say anything worse about Lane than you did?" The Kansan replied, "I know that—it's all right for me to talk that way about the United States Senator from my State if I wish to, but I don't propose to let any Missourian come over here and talk that way about our Senator."

There is much in the manner of physicians testifying that weakens their testimony. The most important thing for a witness is to impress the judge and jury with his absolute sobriety of thought, his earnestness of purpose, and his unquestioned sincerity. The average physician permits himself, on the witness-stand, to be drawn quickly into a fencing match with shrewd counsel, and while it is true that the doctor often gets away with the lawyer, because he knows better what he is talking about than the lawyer, and is often able to crack an exceedingly biting, bitter and galling joke at the lawyer's expense, still every time he does it he has weakened himself with the jury. They regard him as a sharp man, and as a rule, people do not readily trust sharp men.

Within the past two weeks, one of the leaders of our bar, who is as homely of face as he is strong of intellect, and who deservedly commands the respect of every one, was very vigorously cross-examining a plaintiff, and said to him: "If I came into your place and offered to sell you certain paper, and you could buy it very cheap, you would do so without asking any questions, wouldn't you?" The plaintiff (witness) quickly, gloatingly replied, "No, I wouldn't buy it of you, at all. I wouldn't buy anything of a man with such a face as yours. I would be afraid to deal with you." Every member of the jury knew the lawyer, and knew how cruel, unkind and undeserved such a remark was. The plaintiff had stabbed the lawyer, but he lost his case.

When the temptation is on you to crack a joke on the witness-stand, remember that as a rule we laugh at jokers when that becomes their predominant characteristic, but we do not have any great amount of faith in them. Take the clown in the circus, take the comedian on the vaudeville stage—they make you forget your troubles, your trials, and your tribulations; they make your very sides split with laughter, but you don't care to associate with them; you rather pity them. Every lawyer will tell you that every time a witness on his side cracks a joke, instead of laughing, he feels like fighting. I can illustrate this very well by a story that is somewhat apropos: I had a case in our circuit court, in which I sent to the Indian Territory to get a witness who had formerly been a merchant in this city. He was to be the star witne of my side. When he got on the witness-stand

asked him what his business was, and he commenced laughing and said, "Killing Indians." What he meant to imply was that he was selling liquor at wholesale, and that that was his method of killing the Indians. The moment he gave that answer the courtroom became convulsed with laughter; everybody laughed; he laughed himself—that sort of fools always laugh at their own jokes—even the judge laughed; but after that, no one paid any serious attention to his testimony. They did not regard him seriously; they did not believe what he said. He had indirectly told a lie in cracking his joke, and the jury simply thought that he was a light-hearted, joking sort of fellow, who would sacrifice anything and everything for the purpose of getting off a joke.

Naturally and necessarily lawyers understand human nature thoroughly. Next to their knowledge of law, their knowledge of human nature is their most important stock in trade, and they know that, if they can provoke a doctor into saying sarcastic, sharp, savage things, or cracking jokes, they have robbed his testimony of its most important qualities, and have destroyed its influence with the jury. Suppose you were sitting on a jury, and two men were testifying, one a quick, sharp, bright, flippant, joking, sarcastic man, and the other an old-fashioned, slow-thinking, slow-talking farmer, and they two were the only witnesses—some way or other, you do not know just how—you would believe that old farmer every time. The witness testifying as an expert must be cautious, careful, serious—old-fashioned, you might say—about what he says, and he will carry conviction. Let the jury think you are a little slow, if they only think you are honest and sincere, and know what you are talking about.

The next objection that I would urge to a great deal of testimony is the unfortunately vain desire of many of the younger professional men to show off. They allow their desire for ostentation to get away with them. They answer questions by delivering essays when a short "yes" or "no" would do just as well. They use big words; they endeavor in any way and every way to impress upon the jury that they are the real thing, and that they know it all. Now, twelve sensible men, whether highly educated or not, will get a man's measure pretty quickly. They will know, after they hear him talk ten or fifteen minutes, whether he is a man of knowledge, and whether he really knows what he is talking about, or whether he is using a lot of fancy words to mystify them. The truth of it is you do not fool them, and testimony couched in the plainest, simplest language possible is what will impress itself upon the jury.

Do not volunteer information. If the side that calls you has not sufficient ability to ask you the proper questions, that is neither your fault nor your business. When the question is asked, then answer it concisely and simply, using language that will carry the information to the jury, who are drawn not alone from the universities and colleges, but from the anvil and the plow. Talk as you would if you were teaching a kindergarten. In every instance, let the size of your words be measured not by a vain desire to display your learning, but by the capacity of your audience to grasp their meaning. A man is much safer talking in a lower intellectual scale than his audience really demands than talking above their heads.

If there is anything I abhor in a lawyer's argument or in a doctor's testimony, it is a lot of Latin words. What are you on the witness-stand for? To state to the jury, in language which they may understand, just what you are trying to get at, and what the side that called you is endeavoring to prove. But what do we find? A physician is put upon the stand, and he is asked to describe something to the jury; he uses all sorts of high-sounding terms and expressions and Latin phrases, that nobody, except some other physician, would understand. His testimony carries little or no weight with it. How can it? You might as well be talking French to a lot of Fiji Islanders, or native Irish to a lot of Filipinos, as to talk Latin to the average juror. The following account of an actual happening in an English court, is related in a little book called "Hints on Advocacy," published first in England:

"I discovered considerable ecchymosis under the left orbit, caused by extravasation of blood beneath the cuticle," said a young house surgeon in a case of assault at the assizes.

Baron Bramwell: "I suppose you mean the man had a black eye."

Scientific Witness: "Precisely, my lord."

Baron Bramwell: "Perhaps if you said so in plain English those gentlemen would better understand you."

"Precisely, my lord," answered the learned surgeon, evidently delighted that the judge understood his meaning.

I was in court once when a very eminent member of your profession, and an honored member of your society, was called to testify as to whether a certain injury that happened to a boy was a dislocation of his elbow-joint. One of the physicians said he knew it was a dislocation, because when he set it there was a cracking. The old member of your profession, who knows as much Latin as anybody, testified in English for nearly an hour without using a single fancy expression. When he wanted to speak of an arm he called it an arm; a finger, he called it a finger. He ridiculed the idea that this cracking proved that it was a dislocation. He held up his own big hands in front of the jury, and said, "See me crack my fingers; now they are not dislocated." He could have talked all the Latin there is in the books for one week to that jury and he could never have made it as clear to them just what he meant, as he did by holding up his hands and giving them ocular proof of what he was saying, by explaining the thing to them in a homely way which they readily understood. Is it not as easy to say knee, or elbow, or foot, or head, as to use the Latin words meaning the same thing? To most of us it would be much easier. Your object certainly must be to win the jury to your way of thinking; you must, therefore, get down and speak to them in language that they understand, and that is plain, good, old-fashioned English. As I understand it, there is scarcely a part of the human body that has not a perfectly proper and adequate English name, and if that be true, I think that the only safe way to do is to always use those English names and drop the Latin, on the witness-stand. My idea is that doctors feel about using Latin to juries, like a little story that they tell about Henry Clay. They say that he was delivering an address down in Kentucky (I do not vouch for the truthfulness of this story), and just as he was about to close, one of his friends stepped up to him and said, "Give them a little Latin; they are used to having all their speeches closed with a little Latin." Clay, in the excitement of the moment, could not think of any Latin, so he wound up by saying, "My friends, I can close this address in no fitter way than by quoting to you the expression of the great Latin

scholar, Cicero, whom you all remember: 'Mozambique, Mozambique, Mozambique.'" And they say that they did not get through cheering that "Latin" quotation for nearly twenty minutes. But, my friends, that is not the effect that Latin quotations have upon the witness-stand. Jurors may mentally cheer them, but they go with the side they understand.

The next great objection I would urge to all expert testimony is its intense partisanship. There is scarcely a moment when everybody around the court-does not feel that the expert witness is simply the hired advocate of one side or the other. His position is really a judicial one; he is expected to consider the matter in dispute, absolutely judicially, and give a fair and non-partisan decision as to what is right, and what is wrong. If the jury could believe that, his testimony would carry great weight, but let him get upon the witness-stand and at once, if he is called by the plaintiff, begin to magnify the injuries, or, if he is called by the defendant, to swear as hard as possible that there is nothing at all permanent about the injury, that it is a thing that will quickly wear away, a mere passing shadow, and if there is a possibility of his favoring the side that calls him, go to the very limit of partisanship—and the average witness is not capable of concealing his partisanship and his bias—the result is no one believes a word he says. When once the jury believe that the testimony is not fair, but is colored by some motive, it loses its force and its weight.

But the thing that really destroys the entire weight of expert testimony is that everybody knows that, in the great majority of cases, it is simply a question as to which party gets to the expert first. They tell a story on a learned member of our bar, who was being opposed in Ray County by the Nestor of that bar, in a case that went from this county to Ray County on change of venue, and when the old Ray County Nestor sat down, after having made a splendid speech, the Kansas City lawyer got up and said, "Gentleman, that was a great and magnificent speech, and we would have had it on our side if our telegram had reached our old friend, Judge Smith, a few minutes before the other one did." Now that is exactly the way the public feels about the testimony of experts. It feels that the testimony is for sale to the first comer. The public believes that expert testimony is a hired, a purchased commodity, and that the number of experts on each side is measured by the size of the purse of the respective sides; that it is just as easy to obtain the same expert on one side as on the other, if you only "have the price;" that the expert has no conscientious scruples about the side he is on; that he does not think about the side, only the money.

But you may properly say to me: How is it that you, who belong to a profession that is ready to be retained by either side, without always going into the question of the merits or demerits of that side, criticize any other profession for holding itself open to serve whoever may first employ its members, even as expert witnesses? The difference is this: we lawyers do not assume to act judicially; that is, we do not assume to say that we have examined both sides of the case, and that we testify under our oath, impartially, that the side which we represent is the right side. We assume that everybody understands our partiality; we are there to advocate our side, and to make it look the best we can. We do not pretend to give our opinion based upon the entire transaction, but in the best way we can, to fight for our side. Our position is thoroughly understood and defined. We are not attempting a confidence game by claiming to be impartial, and then not being impartial. It is told that Mr. Evarts once said that no better scheme had ever been devised for the doing of justice, than to permit each side to hire an advocate who would proclaim the virtues of his side and the vices of the other, in the loudest tones possible, claiming everything he could, and then permitting the other side to do the same, and having an impartial judge and jury guess between the two.

A lawyer may be compared to the paid advertising column of a newspaper, where anybody can make any and every claim for his enterprise—the public understanding that it is leased to the advertiser. The doctor may be compared to the editorial columns, because they are supposed to express the impartial, unbought opinion of the editor, which should be priceless, and should never be sold. The expert witness does not admit that he is an advocate. He assumes that before he became a witness he exercised the fairness of the judge. He says: "I went to this place to see this man, without any preconceived notions, ideas or prejudices, and I found that he had a permanent injury." He assumes all the time that he is unbiased, and that the fee he received does not color his testimony. It is for that reason that when the jury finds that he is not judicial and fair, they lose their respect for him and his testimony. The moment we would find that our judges were not impartial, the judiciary, which is the very foundation of our government, would go to pieces.

In a recent article in a leading legal periodical, *Case and Comment*, this matter is discussed under the heading of "The Scandal of Partisan Experts." In the course of the article the following statements are made: "But there is quite as strong a tendency to subornation of perjury in the employment of experts to sustain one side of a case. . . . 'Hired Liars,' they have been called, and some of them earn the description. A remedy for the evil and disgrace of hiring perjured experts has been much discussed by bench and bar, but without much result."

Many schemes, propositions and projects have been put forth for the remedying of all this. Nobody could realize more clearly than your own profession the injury it is doing. Recently, through the kindness and courtesy of your censor, I was handed a medical journal in which there is an article in which it is stated that "expert testimony, and especially medical testimony, has fallen into disrepute, and justly so, in many instances, on account of the way it has sometimes been procured and used in the courts; and yet it has been the desire of all right-minded and competent men to free testimony from bias and all other difficulties as much as possible," and then later on in the same article, it states that "as a result of a discussion of these matters before the International Medico-Legal Congress in New York," the following draft of a proposed law was prepared by an eminent New York lawyer, in conjunction with a Maine judge:

An Act in Relation to Expert Testimony:

SECTION 1. When in any civil or criminal proceeding it appears that the testimony of skilled experts may aid in determining any issues of fact, any justice of the court in which proceeding is pending may, upon application of either party, and after reasonable notice and hearing, appoint one or more skilled experts and make such reasonable examinations and tests in relation to the personal thing or subject matter involved as either party may request.

SEC. 2. Such expert may be examined as a witness at the trial by either party or by the court, and shall receive for his services and for his attendance at court a reasonable sum, to be fixed by the court, and paid by the party making the application and be taxed in his costs if he recovers.

A law requiring a person to submit to a physical examination by a physician has been held to be unconstitutional by the United States Supreme Court, in the case of the Union Pacific Railroad vs. Botsford, 141 U. S., 250, in which case Mr. Justice Gray, delivering the opinion of the court, said:

The inviolability of the person is as much invaded by a compulsory stripping and exposure, as by a blow. To compel any one, and especially a woman, to lay bare the body, or to submit it to the touch of a stranger, without lawful authority, is an indignity, an assault and a trespass; and no order or process commanding such an exposure or submission, was ever known to the common law in the administration of justice between individuals, except in a very small number of cases, based upon special reasons, and upon ancient practice, coming down from ruder ages, now mostly obsolete in England, and never, so far as we are aware, introduced in this country.

The same procedure, however, has been held constitutional by the highest courts of many States, and it is a question on which the decision of the Federal supreme court is not controlling. In Missouri our supreme court has sustained the right to such examinations, so that we can and do have compulsory physical examinations by experts appointed by the court, and it is a perfect farce. Our practice is exactly that proposed by those two learned gentlemen, and I say it is a farce. It does not amount to anything. We go into the circuit court and we ask for the examination of the adverse party. As a rule, the court appoints the physician whom we suggest, to do the examining. We know in advance just what sort of examinations this physician is going to make, and just what sort of testimony his will be. The lawyer asking his appointment knows the strength of his vision when necessary, and knows that at the other times he verifies the adage that "there are none so blind as those who won't see." This "impartial expert," appointed by the court, is no more the court's examiner and the court's expert than the "man in the moon." He is simply the partisan expert of one side, whom counsel are endeavoring to give a little standing and credit, by having his appointment confirmed by the court.

I have in mind one corporation in this city, which constantly gets the court to appoint exactly the same "impartial, disinterested" examiner to go out and examine the plaintiff. Well, do you think that he is fooling anybody? Do you not think that very soon the jury are in possession of the fact that this man is always testifying on the same side, and that he constantly gets his appointment through the same influences and for the same reason? Even if this law did really supply one or two or more impartial experts, it would not correct the evil, for it would leave them to be overwhelmed by the experts which either side could procure just as freely as ever. I question whether any legislative enactment could prevent a party from putting in such expert testimony as he can pay for—as long as he is able to get it. Our experience here has shown that the law above suggested would correct no evil and work no improvement.

I recognize, as must every man who is abreast of the times, that such societies as this are most powerful agencies for the keeping of members of your profession within correct lines and forcing them to live up to a high code of ethics. Boards of trade, stock exchanges, live stock exchanges, are able to force their members to live up to the most rigid code, and to observe the highest standard. They are able to make the meanest man's word as good as the best man's bond. No shirking of obligations, no equivocation, no squirming are permitted. No resort to law is necessary. They are so powerful within and of themselves that the Golden Rule is recognized by even their worst member as an absolute necessity if he wishes to stay in. You can not be as powerful as they are, because a man can practice medicine without being a member of a recognized medical society, but you can do much more than you now believe. If a man were driven outside the membership of societies like this for his experts, he would make a very sorry showing in court, for juries understand who are the eminent physicians of a city. A well-known name is worth more dollars than an unknown name is worth dimes. Therefore, if your medical societies like this would get together, you could very readily bring about a reform that no law passed by a legislature could accomplish. Whatever legal measures are passed by legislatures will be evaded as easily as our present method of having the court appoint an examiner. The remedies must come from within societies like yours. Let me suggest that each of your medical societies appoint five or six members who shall act as experts, say for a term of six months, and none of whom shall ever see anybody with a view to becoming an expert, except when he is acting as a member of your committee, and then say that three members of the committee shall go together to make the examination. Require the party who wishes the expert testimony to deposit a reasonable sum with your treasurer, and let that money be the sole compensation of the committee for making the examination, except what the law allows them as ordinary witness fees, and then let every other member of your societies refuse positively and unequivocally to do anything with a view to becoming an expert witness. The parties will then be driven, if they want eminent experts whose worth will be recognized, to get them through your societies. The party who applies to you for the services of your experts must be exceedingly sure of his case, for your committee, absolutely fair and impartial, will not have any reason or motive for favoring him, and will not do so. The man pays just as much for an unfavorable as for a favorable decision. The committee will have nothing to gain by going on the stand. Their pride and honor can be relied upon not to turn a man down just to get out of going on the witness-stand. A man will always be sure he can get the best quality of expert testimony in a straight case. In a crooked case he will be unable to buy it from physicians of recognized standing.

The courts, undoubtedly, when application is made to them to appoint medical experts to make a physical examination of a witness, under our present practice, would recognize your committee. The courts fully recognize bar associations, although seldom incorporated, and when a man applies for admission to the bar, the court appoints the examining committee of the bar association to conduct the examination. I have never known of a case where the court has admitted a man whom the bar association committee reported unfavorably, or refused to admit one whom this committee reported favorably. So I think that there will be no trouble in getting all the courts to say that they will never appoint any physician to conduct these examinations, unless he is a member of the

regular committee of a recognized medical society, and as this matter as to who shall be appointed lies in the discretion of the court, the courts could legally make and enforce such a rule. Even if the courts did not recognize your committees, as I am quite sure they will, still they could not force any member outside of your committee to look at a case with a view to becoming a witness.

As a business proposition, it has always seemed to me that a busy physician really loses money by becoming an expert witness; that is, that the length of time that he puts in in visiting the case, consulting the lawyers, waiting around the courtroom, and testifying, does not make it at all profitable for him, so that I think there will be no loss of money to you by your failure to become expert witnesses, and it seems to me that the proposition I have just advanced, if your societies would be rigid, and your members would recognize its authority, as they undoubtedly will, would be a great cure for the evil that is certainly disgracing your profession.

What I have said about physicians testifying does not apply to the physician who actually sees the case during the illness, that is, to the attending physician. I think, as a rule, when he talks English to a jury, and handles himself right, the jury understands that he is on the witness-stand, not because he wants to be or because he was hired to come there, but because, in answering a professional call and in responding to a professional duty, he saw and heard things which he could not help seeing and hearing, and that he is there simply to tell what he knows, the same as any other witness. There is not, and ought not to be, any check put on the attending physician fully and fairly testifying to all he saw and heard, except, of course, that he must not violate professional confidences by testifying without the consent of his patient.

The constant cry is that in this commercial and business age all the professions are becoming commercialized—lawyers, doctors and preachers can no longer be distinguished from others by their dress, or by their manners. It is no longer considered a "cute" thing for a lawyer or doctor not to pay his bills—in fact it is rather disgraceful. Doctors are measured to a great extent, whether rightfully or wrongfully, by the amount of their professional income. A doctor must make his visits short but effective. He must really be a combination of a business man and a physician. Never, however, has the standard of professional knowledge been as high as it is now. Physicians know more now than they ever did. The physician must be a polished, educated gentleman. The business man himself has become much better educated. Business men used to look with contempt upon a college education, and yet today college-bred business men are becoming the most important leaders in all public affairs, and a man who uses bad grammar and club-footed English, and shows a lack of breeding and education, while he may be a king in his own counting-room, is looked upon with contempt elsewhere.

The spirit of commercialization does one thing: It raises the standard of honor. Business men know that they can't succeed where their credit is gone and their word is not taken, therefore, however keen they may be for dollars, however much cupidity they may have, however much avarice they may possess, still once they give their word, it must stand. Contracts involving fortunes are made verbally, but the man who pleads that they were not in writing, is put under a ban. The market may go up, or it may go down, but business men of high position live up to their contracts regardless of loss or gain. In my own profession, lawyers are trusted with enormous fortunes and great sums, without a bond, or without any assurance of any kind, except that their professional pride and their professional honor will always stand as a barrier between them and unfaithfulness to the trust reposed in them.

Now, shall it be said that a learned profession like yours, composed of cultured, educated, refined gentlemen, in this age of commercialization, has become commercialized to the extent that it itself has become the object of barter and its members the subjects of purchase and of sale? No. Let it be the constant aim of every member of the profession to stop this thing, and to make it impossible for any one to get any physician to go upon the witness-stand, not as the impartial judicial narrator of what, because of his learning and skill he is able to see where the eyes of the less experienced and more unlearned can discern nothing, but as the paid, partial and biased advocate of one who thus puts a price upon his honor.

When duty calls, a true physician knows naught else. Beneath the coldest sky, under the hottest sun, wherever there is suffering, there he is. The darkness of the darkest night, the fierceness of the fiercest storm do not deter him. Amidst the terrors of the direst epidemics and the horrors of the most dreadful plagues, he forgets his own safety, and his own life becomes as nothing compared to that of his patient. On every battle-field, under every flag, midst shot and shell, he answers humanity's cry, whether from the lips of friend or foe. In poverty's darkest hovel he ministers to the sick and gives cheer to the afflicted, without fee or price or hope of reward on this earth. He is the repository of the most sacred of family secrets; he never betrays them. Membership in such a profession, so noble in its aspirations and practices, so self-sacrificing—ever and always recognizing duty as its watchword and guiding star—should make one too proud to ever let it be said that his testimony on the witness-stand comes not from the lips of the conscientious and impartial witness, but from a man who, forgetting duty, is for the time being proving to his golden master that the laborer is worthy of his hire.

Pyrogallol for Tuberculous Processes.—Veiel publishes a number of observations of extensive tuberculous processes cured with pyrogallol, which he considers beyond question the best of all chemic methods of treating lupus. He uses a 10 per cent. pyrogallol vaselin for three to five days, and then a .5 to 2 per cent., which is strong enough to destroy the lupus tissue without interfering with the formation of healthy granulations. As the discharge diminishes the salve must be concentrated. The best results were attained in tuberculosis of the tendon sheaths. Abscesses and long fistulæ in glands with indurative inflammation or calcification, were not affected, but superficial, recent, soft, suppurating glands were very favorably influenced. "Superficial affections of the spongy bones and of the epiphyseal portions of the long bones, heal beautifully under this treatment." When the bones are so invaded that surgical intervention is imperative, pyrogallol helps to ensure a solid, fibrous cicatrix. This treatment requires more time than surgical, but it has its special indications, for instance, the multiple caries of children of tuberculous parents. Constant supervision of the urine is necessary, although there is much less danger of albuminuria or hematuria with pyrogallol in vaselin than with aqueous or alcoholic solutions.—*Arch. f. Derm. u. Syph.*, xliv, p. 353.

Original Articles.

LEUCOPLAKIA—PSORIASIS—LUPUS VULGARIS.

Presented to the Section on Cutaneous Medicine and Surgery, at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

BY JOHN V. SHOEMAKER, M.D., LL.D.

PROFESSOR OF SKIN AND VENEREAL DISEASES IN THE MEDICO-CHIRURGICAL COLLEGE AND HOSPITAL,

PHILADELPHIA.

Our friends of the local committee have done me the honor of requesting a few words upon several patients whom they have brought before this Section.

LEUCOPLAKIA.

The first is an example of a rather rare affection. This man, 41 years of age, has white patches upon each lateral half of the tongue. The lesions occupy the larger part of the anterior half of the organ and occur in no other situation. They have been present for years. They occasion no suffering in general, but smart when hot, sour or highly seasoned food is eaten. The man declares his health to be good, but he has a heavily coated tongue, his bowels are habitually constipated, his appetite is capricious, he is troubled by flatulence and often experiences torpor after a meal. He is a victim, in other words, of chronic gastro-intestinal catarrh. There is no disorder of heart, lungs or kidneys. He does not use tobacco in any form.

The commonest white lesion within the mouth is the mucous patch. Although there is here in the color a certain superficial resemblance to the mucous patch, there are points of distinction which enable me to exclude syphilis. The mucous patch is but little, if at all, raised above the adjacent surface. The mucous patch is prone to ulceration, but it is readily relieved by antisyphilitic remedies. In this patient I find that the affected regions are elevated, and that the papillæ of the mucous membrane are very prominent, and evidently in a state of hyperplasia. There are also thickening of the epithelium and exfoliation or desquamation. Little shreds of membrane are cast off from time to time. There are some fissures upon these white patches but no general ulceration. The scleroses of late syphilis may exhibit a dull grayish hue, but are very different in appearance from the distinct white of these patches. Syphilitic scleroses, moreover, are indurated.

Another affection of the mouth which bears a resemblance to that before us is the opaline patch to which glass-blowers are subject. These, however, afflict only one class of workmen and can, therefore, be promptly eliminated by the simple statement of an individual's occupation. The glassblower's patches disappear when the man has been for some time out of work. I scarcely need refer to carcinoma or tuberculosis. The aspect and the chronicity of this case are totally dissimilar to the course of either of those fatal maladies.

There remains but one disease with which we can identify that before us, viz., leucoplakia or leucokeratosis. This begins as red hyperemic spots upon the tongue or inner surface of the lips or cheek. After an indeterminate duration the redness gives way to a whitish color, and the overlying epithelium becomes thickened. As the disease goes on the excessive proliferation of epithelium gives rise to flaky desquamation. The patches may be round, oval or oblong in outline. Most cases begin upon the tongue. In course of time the epithelium becomes horny and rough. Fissures are apt to form, and ulcers may occur. In some cases we may witness different stages of the affection simultaneously present in the same case. The morbid condition at length stimulates the papillæ of the corium to hyperplastic growth, and the final outcome is often an epitheliomatous degeneration. Herein lies the chief gravity of the disease. In the patient now present the process is entirely local. Nevertheless, we must always be on our guard against the possible termination.

The course of leucoplakia is exceedingly indefinite. It may be in progress for half a lifetime. In a case recently under my observation, it had been in existence for nearly forty years. Its march, however, is by no means uniform. During long periods it may remain entirely stationary, and there may even be intervals of improvement. Local irritation is the chief cause of leucoplakia, and in men the most frequent irritant is tobacco. It is generally dependent upon the habit of smoking, and consequently, is much more common in men than in women. Notwithstanding this fact, it may occur in those who do not smoke, as the present case, among others, demonstrates. Leucoplakia has been likewise observed upon the vulva. Other local causes of the disease are broken teeth, ill-fitting dentures, the excessive use of condiments and alcohol. In a minority of cases leucoplakia may be due to constitutional conditions. In the case now in your presence I should attribute its occurrence to the gastro-intestinal catarrh. I should accordingly make use of systemic, as well as local treatment.

The first step in the management of leucoplakia is to forbid tobacco, hot and spiced food. Any cause of irritation in the teeth or plates should be removed. Antiseptic and alkaline mouth washes fulfil a useful purpose. A solution of papain in ten parts each of distilled water and glycerin is one of the best local applications. Balsam of Peru, lactic acid in 10 per cent. solution, chromic acid in 1 per cent. solution, and a 10 to 30 per cent. solution of salicylic acid are other topic agents which have been employed. The use of strong caustics is to be deprecated on account of the tendency of leucoplakia to eventuate in epithelioma. In the present case I would suggest the adoption of treatment directed against the gastro-intestinal catarrh in conjunction with one of the local measures which I have mentioned, of which papain is probably the most efficient. One of the best remedies to act upon the condition of this patient's mucous membrane is one of the salts of silver, especially the nitrate, in the dose of one-eighth grain in a dram of the syrup of acacia before meals. The silver salts will give tone to the mucous membrane, will restore the glands to their normal state, and will assist in governing the gastro-intestinal catarrh. Diluted hydrochloric or nitro-hydrochloric acid in five to ten drop doses, well diluted, after meals may replace the silver salt at the end of every two weeks.

PSORIASIS.

Our second patient is a man, 32 years of age, upon whose face and scalp is situated a dry, scaly eruption. The disease began upon the scalp; it is absent from other parts of the body; it gives rise to moderate itching. The hair is dry and lusterless. The characteristics of the affection can be better seen upon the

face where it is not hidden by the hair. The lesions consist of patches, each of which is about the size of a ten-cent piece, absolutely dry, slightly raised above the surface, with infiltrated base and surmounted by firm, thick, coherent scales of a whitish or mother-of-pearl color. There has never been any acute inflammation or any exudation of moisture. The initial manifestation of the disease is the outbreak of small solitary papules covered with a fine scale. Individual papules are separated by tracts of healthy skin. Such papules are definitely circumscribed and never exhibit that gradual shading off from diseased to normal integument which we witness in eczema. Adjacent papules coalesce into patches, and the larger are as sharply defined as the smaller lesions. Moreover, the scales of this case are quite different in character from those of eczema, which are thin, flaky, and can often be detached in large sheets or laminæ. Infiltration is often exhibited in chronic eczema, but the patch is not elevated in that disease. In the present case the color where the scales have been removed is of a duller, deeper hue than in eczema. Subjectively, eczema is almost invariably attended by intense itching, but this patient makes no complaint of that distressing feature. Eczema beginning upon the scalp rapidly extends to the forehead and other parts of the face, whereas in this case the spread has been much more gradual. The color, the history, and the progress of this case forbid me to regard it as one of syphilis. The scales of dry seborrhea consist of inspissated sebum, but upon this man's scalp, equally as upon his forehead, they are composed of epithelial cells. The scales of seborrhea are crumbling and greasy. There are scales in lupus erythematosus, and that disease attacks the face by preference, but the scales of that affection are thin, scanty, greasy, whitish or brownish in color, and beneath them are seen patulous ducts plugged with comedones. Nothing of the kind is to be found in the case which we now observe.

This is, in fact, an excellent example of psoriasis. It illustrates one of the sites of predilection of psoriasis, viz., the scalp. In many cases we obtain the history that it commenced in that situation. Other favorite localities are below the knees and behind the elbows. In other words, psoriasis selects regions in which the integument is thick, prevailing, for instance, upon extensor surfaces, while eczema prefers the flexor aspect of the limbs. I have named the essential points of psoriasis. They are clearly exemplified in the case before us, although the extent of surface involved is comparatively restricted. Many descriptive titles have been applied to psoriasis in accordance with the arrangement of the lesions in particular cases, but upon these I need not insist before the present audience. I will only state that in quite a proportion of instances I meet with circular, semicircular or serpentine outlines, due to the coalescence of the borders of adjacent patches and the falling of scales, together with the fading of color in the center of the larger lesions. Psoriasis of the palms and soles is rare, but remarkably obstinate. In some instances the disease attacks the nails, rendering them discolored, pitted and brittle.

The chief causes of psoriasis are disorders of the blood or nervous system. I find the affection very frequently associated with the rheumatic or gouty dyscrasia. In other instances insufficiency of the liver, gastro-intestinal catarrh and auto-intoxication produce the disease of the skin. External causes are provocative of psoriasis, in my opinion, only when they act in conjunction with a predisposition dependent upon internal conditions. These facts give the clue to treatment. This is far from being as satisfactory as could be wished, but much may be accomplished by patient assiduity, provided we receive the faithful co-operation of the patient. Local measures are of inferior value to systemic treatment. It is true that we may remove scales by adventitious methods, but it is equally true, unfortunately, that the morbid process will soon reproduce these evidences of disease. If they are present in great abundance upon the scalp; if they cause disfigurement of the face, as in this case; if they annoy the fastidious by accumulating within the clothing, get rid of them by all means, but do not expect to cure the disease by external remedies. As for the harsher methods, such as scraping the surface with sand, etc., they are tedious, painful, and utterly without permanent value. Baths, poultices, and the application of oils will accomplish the same purpose without the same disturbances. Many rely upon chrysarobin, but it stains and is liable to cause intoxication. The same objections apply to pyrogallol. After the surface has been cleared, the use of a mildly stimulant ointment will secure all the objects of topic treatment. I regard local remedies as of less importance than constitutional care.

If I detect evidence of rheumatic influence in a given case, I place the patient upon one or more of those agents which have a beneficial effect upon the systemic condition, such as salicylic acid and its combinations, salol, salicin, potassium iodid, etc. By this method I have in numerous instances obtained very satisfactory results. The scales disappeared, the infiltration was removed, and the affected regions assumed a perfectly normal aspect. If recurrence took place, or when recurrence took place, the same treatment was resumed. In this manner, by submitting to treatment for a certain portion of the time and by regulating the diet, the patient may be kept practically free from his infirmity, even if the disease be not thoroughly cured. In a fair number of cases the intervals of freedom will be protracted, and, indeed, I recall some which might be considered cured. When there is notable gastro-intestinal disturbance I am in the habit of administering an occasional mercurial purgative, followed by vegetable cathartics in sufficient doses and sufficiently often to secure free action of the bowels. If auto-intoxication exists, intestinal antiseptics are of service.

When psoriasis is dependent upon disorder of the nervous system, remedies such as silver nitrate, zinc oxid, phosphorus, etc., are of value. The galvanic current is of special efficacy, both on account of its local and constitutional effects. Arsenic frequently produces good results in psoriasis. In obstinate cases arsenious acid or sodium arseniate may be used hypodermically with decided effect. The prolonged use of small doses of antimony is likewise beneficial in stubborn cases. Sulphur is an efficient remedy, particularly in those cases associated with hepatic torpor. It has a favorable action upon the liver and promotes the nutrition of the skin. For this purpose it is best given continuously in five-grain doses, thrice daily, combined with one or two grains of sodium bicarbonate.

LUPUS VULGARIS.

Here is a lady, aged 32 years, whose cheek is seriously disfigured by a large spot of red, encrusted,

partially ulcerated and partially cicatrized eruption. Its inveterate character is attested by the fact that it has been in more or less active existence for several years, and that, although it at times abates and cicatrizes, yet it always breaks out afresh. Such is the history and such is the evidence of the lesions. We witness here, in fact, a composite picture, the various parts of which can be plainly distinguished. Near the borders of the main lesions there are a number of papules and tubercles of various sizes, and these represent the earliest stage of the disease. They are situated in the substance of the corium, are of moderate consistence and communicate a yellowish-brown color to the surface. If they attain their full development they gradually approach the surface, enlarge, and may then coalesce with adjacent nodules, ulcerate or recede, The ulceration may heal in one part to spread in another, as is exemplified in this case. In this single individual, therefore, I am able to trace the course of a serious cutaneous malady through all its phases.

The tubercles of syphilis bear some resemblance to those of the present case, but they differ in being of much more rapid development and more widely disseminated. The tubercular syphilide has also the peculiar and distinctive coppery hue. Ulcerated syphilitic tubercles are covered with a copious secretion and their crusts are thick and of a greenish color.

The case is evidently not syphilitic, nor does it display the features of epithelioma. We do not behold in epithelioma that association of tubercle, ulcer, crusts and scars which exists upon the cheek of this woman. She is too young for epithelioma to be a probable diagnosis, and in the absence of active surgical intervention, of which I hear nothing, a malignant affection would ere now have run its course, and the patient would have been in her grave.

The course of this disease and the gross aspect of its lesions point to lupus vulgaris. That is the only malady which corresponds exactly to the description of the case now in our presence. It illustrates the favorite seat of lupus, which seldom attacks any part of the body except the face. The disease sometimes begins upon a mucous membrane, and in exceptional instances it causes ulceration almost as deep as that of carcinoma.

It is usually said that lupus vulgaris originates during childhood, but I have encountered numerous cases which have begun after the age of 25 or even 30 years. I shall not make any attempt here to discuss the question of the relation to general tuberculosis. Suffice it to say that few bacilli tuberculosis are found in its lesions, that the clinical picture of lupus shows slight analogy with the undoubted forms of cutaneous tuberculosis, and that, although some patients belong to tuberculous familes or develop pulmonary consumption, yet such cases are rather exceptional. Most of the lupus patients whom I meet enjoy fairly good health through a long period of years. As regards the local management of lupus, I am no champion of rude manipulations, such as curettage, linear scarifications and other mechanic measures. These are likely to be attended by dissemination of the disease. The treatment which I favor and which is followed by the best possible results, consists, in the first place, of the application of pure carbolic acid to the lesions. This is destructive of lupus tissue, while it has at the same time an anesthetic and parasiticidal effect. This operation is performed two or three times a week, and in the intervals I have the sore dressed with an antiseptic ointment of medium strength. By this means I have often had the gratification of observing very decided amelioration of the disease. The ulcers would become cicatrized and the affection remain in total abeyance for long periods. There is always, however, a marked tendency to recurrence. The constitutional treatment of lupus is to be conductued on general principles. If anemia, scrofulosis or tuberculosis coexist they are to be combated with the classic remedies. Arsenic has not infrequently a favorable influence upon the course of lupus.

CHRISTIAN SCIENCE.

THE NEW THEOLOGICO-PHILOSOPHIC THERAPEUTICS.

BY EDMUND ANDREWS, A.M., M.D., LL.D.
Senior Surgeon Mercy Hospital; Professor of Clinical Surgery Northwestern University Medical School; Consulting Surgeon Michael Reese Hospital.
CHICAGO.

By common impulse the discussion of theologic opinions in a medical journal is felt to be abhorrent to good taste. Christian Science, however, intrudes itself upon us both as a religion and healing art inextricably mixed together. Moreover, it uses its peculiar theology as a weapon to attack the science of medicine, and with it all the other physical sciences. It is right, therefore, to outline its theology with its appended therapeutic methods, but I shall not dispute about the truth or error of those of its ideas which are merely theologic.

The scheme has come to the front at a favorable time. Eclecticism and homeopathy have lost their sharp separateness and are seeking to merge themselves into general medicine. This leaves a vacancy, and Christian Science promptly steps in to fill it. Most physicians know something of it, but few have any full and clear information of its character, so I shall try to give a condensed view of the subject.

This complex system was evolved some twenty years ago by a woman in eastern Massachusetts, named Mrs. Mary Baker G. Eddy. She speaks of the system as both a "discovery" and a divine revelation. She wrote it out in a work of about 650 octavo pages, called "Science and Health, with Key to the Scriptures." This book has reached its 137th edition of 1000 each. It is copyrighted, and is sold at $3 a copy. My quotations from it in this article are made from the 107th edition.

Mrs. Eddy was born of New England parents, at or near Lynn, Mass. She early united with a Congregational (Trinitarian) church there, and continued in it long after she adopted her new tenets; in fact, until she founded her first Christian Science church. In childhood she claims to have heard a divine voice calling her by name. Having developed her system of Christian Science healing, she opened what she called a "College," in Lynn, Mass., to teach the art to others. A full course lasted three weeks, and she charged the pupils $300 each for the course. If they took subsequent courses they paid $200 each. She claims to have educated about 4000 pupils in the college. At a later period she opened a church in Boston, which now claims a very large membership.

HER POSITION IN THE DENOMINATION.

Mrs. Eddy is the recognized head of the sect, and must be implicitly obeyed. So complete is this subjection that the "Church of Christ, Scientist," in

Chicago places this command in its pamphlet of "Rules and By-Laws:"

Any member of this Church who may be practicing, teaching or preaching contrary to the teaching of "Science and Health, with Key to the Scriptures," by Mary Baker G. Eddy, or who may be guilty of any immoral conduct or who may violate the Tenets or By-Laws of this Church, or any part thereof, may be expelled from the Church.[1]

Mrs. Eddy's book is considered of inspired authority. In its theologic portions it contains much that is accepted by all religious people, and also much which is rejected by all denominations except her own. The work is unskilfully arranged, and sometimes confusedly expressed, but the emotional portions are written in strong, warm and eloquent language. In such passages she puts forth appeals full of religious fever, accompanied with bold and confident promises of restored health, rescue from sin, and assurances of immortal life hereafter. In these passages her eloquence takes a strong hold on many good souls who are not well anchored in other principles, and are weary of the doubts and struggles of humanity. Her literary style has grave faults, but she is not ignorant. She had considerable school training, and in addition took some home lessons in Latin, Greek and Hebrew.

One singular trait runs through the whole work, and also through the phraseology used by her followers. There is a steady habit of self-contradiction. This is so distinct that it can not be accidental, nor can they be unconscious of it themselves. In treating the sick they constantly assure them that there is nothing the matter with them, yet in reporting their results to outsiders they stoutly assert that they have cured awful cases of consumption, cancer, typhoid fever, etc.

Mrs. Eddy is not naturally of a disputatious temperament. She seems to shrink from collision with old friends of opposing religious opinions, and this is to her honor, but it causes her to modify her theologic statements to a remarkable degree. Apparently, on this account, she uses the same contradictions in stating doctrines that she does in reporting cases. She has always lived in the storm-center of New England controversy, where the "orthodox" and the "liberalists" contended for their faiths, and she had many dear friends in both parties, whose feelings she disliked to wound. To avoid doing so, she frequently modifies her first expressions by subsequent ones which are nearly contradictory. For instance, the "liberals" are generally opposed to all "creeds," i.e., to all formal statements of religious belief. In answer to the question, "Have Christian Scientists any creed? she replies, "They have not, if we accept the term as doctrinal beliefs." Then immediately, as if to soothe her friends of the other party, she proceeds to give a short actual creed under the name of "Tenets," shaping its expressions so as to make them as smooth as possible on the side toward the "orthodox." Here it is:

The following is a brief exposition of the important points or religious tenets of Christian Science:

1. As adherents of Truth we take the Scriptures as our guide to eternal life.

2. We acknowledge and adore one Supreme God. We acknowledge His Son and the Holy Ghost, and man as the divine image and likeness.

3. We acknowledge God's forgiveness of sin in the destruction of sin, and that sin and suffering are not eternal.

4. We acknowledge the atonement as the efficacy and evidence of divine love, of man's unity with God, and the great merits of the Way-Shower (Christ).

5. We acknowledge the way of salvation demonstrated by Jesus to be the power of truth over all error, sin, sickness and death, and the resurrection of human faith and understanding to seize the great possibilities and living energies of divine life.

6. We solemnly promise to strive, watch and pray for that Mind to be in us which was also in Christ Jesus, to love one another and to be meek, merciful, just and *pure*.

[1] Rules and By-Laws of First Church of Christ, Scientist, of Chicago, pages 9 and 10.

After writing this she seems almost to have thought she had gone a little too far toward the orthodox party, for in various places she takes pains to modify the meaning of these tenets so that they will not offend the "liberalists." Tenet No. 2 seems almost to accept the "orthodox" Trinity. She guards against this by saying, on page 152: "The theory of three persons in one God (that is a personal Trinity or Triunity) suggests heathen gods rather than the one ever-present 'I AM.'"

Putting all things together, and allowing for these partial contradictions, the general framework of her theology and philosophy is this:

1. There is but one being in the universe, and that is God. He is everything that exists. "He is All in All." Nothing exists besides Him. This, of course, is a sort of pantheism, but Mrs. Eddy, smarting from the blasts of the theologic storm-center, rejects the name pantheism, probably on account of the public feeling against it, and also because her view differs partly from that of the German pantheists.

2. Human beings in their higher qualities are not separate persons from God, but of one substance with Him, being in some sense mere "concepts" or thoughts of God; a kind of emanation or "reflection" of Him. Hence they are immortal, and above the possibility of all disease, sin or suffering. They never die, but only change their course of thought. She calls them collectively "Immortal Mind."

3. There is, however, a false, delusive, sinful state of mind, which she calls "Mortal Mind," which does all the mischief in the world. Mortal mind falsely believes in the existence of sickness, pain, sin and death. Mrs. Eddy is never tired of denouncing its abominable works. This is her whole pathology, and yet in other passages she denies that this "mortal mind" has any real existence.

4. Matter has absolutely no existence in any form. All is mind or nothing. Even human bodies do not exist. "Matter exists in belief only."[3] "To spirit there is no matter."[4] "Science destroys matter."[5] She asserts elsewhere that though God is omniscient, He is ignorant of matter and of many other things. God only knows what *is*, but He is ignorant of matter, disease, sin, death, and of everything else which does not exist.

Mrs. Eddy adds a glossary to explain her strange contradictions, but the explanations make the confusion worse. Here is her definition of Matter:

"*Matter*.[6] — Mythology; mortality; another name for 'mortal mind'; illusion; intelligence, substance and life in non-intelligence and mortality; sensation in the sensationless, mind originating in matter; the opposite of truth; the opposite of spirit; the opposite of God; that of which immortal mind takes no cognizance; that which mortal mind sees, feels, hears, tastes and smells only in belief."

As a corollary of the non-existence of matter, Christian Science asserts the non-existence of the body. Mrs. Eddy says[7] the body exists in human belief only.

[2] Sci. and Health, p. 493.
[3] Ibid, p. 107.
[4] Ibid., p. 174.
[5] Ibid., p. 174.
[6] Ibid, p. 582.
[7] Ibid., p. 107.

There is no head, no heart, no limbs, no brain, no viscera; so that it is of no use for a "healer" to examine organs which do not exist to discover disease or injury which is not there, nor anywhere else. Yet they constantly assert that they cure local diseases and injuries which they had assured the patient did not exist.

Both Mrs. Eddy and her followers habitually use these phrases, which seem to have double-barreled meanings, asserting at one time that something exists, and at another that it does not. When attention is called to these contradictory statements, they reply that the disease does not exist to God, but that it is a very "solid and real" evil in the false belief of the mortal mind of the patient. As they deem that nothing at all exists in the universe except mental states, they seem to deem themselves quite justified in stating a thing either way just as they find convenient. Moreover, Mrs. Eddy intimates that the imperfection of the old language and the mental dulness of outsiders is such that "in expressing the new tongue we must sometimes recur to the old and imperfect, and the new wine of the spirit must be poured into the old bottles of the letter." [8]

THERAPEUTICS.

The "healers" are not allowed to give any medicines, under penalty of expulsion from the church.[9] Their theory is that the patient has no disease whatever. He is suffering only mentally, from a false opinion in his "mortal mind" that he is diseased. What the healer has to do is to exert his own "immortal mind" to convince the patient that he is actually well, and then he actually *is* well. In fact, they suppose he was well before, only he did not know it.

This exertion of the healer's mind on that of the patient is supposed to operate in at least two ways:

1. By direct verbal assertion and persuasion, as well as by influence through action, manner, etc., to convince the sufferer that he is well.

2. By silent influence to the same end, by the healer bringing his mind to bear upon it. The silent influence may be exerted at any distance, however great, and is then termed "absent treatment."

The healers use tact and gentleness to win the confidence of the patient, and try to encourage him in every way, much as physicians do, and so far as the promotion of calmness and cheerfulnes can benefit him they do some good, but they fail in modifying physical or organic pathologic conditions. Deaths occur, of course, but these are asserted not to be real deaths, but delusions of "mortal mind."

It is said that the majority of the "healing" is done by women, and that the usual fee is one dollar a "treatment" or interview. This low price, and the total absence of all expense for medicine is an important item in drawing patronage. A public "dispensary," if that is a correct term for a place where nothing material is dispensed, is daily open on Dearborn Street, corner of Madison Street, Chicago.

Mrs. Eddy seems to have been originally something of a homeopathist, at least she made some use of the system, and her adopted son graduated at a homeopathic college in Philadelphia. She affirms that she derived valuable hints from that system; for instance, she says that she "made a very high homeopathic attenuation of *natrium muriaticum* or common table salt, and with one drop of that attenuation in a goblet of water, and a teaspoonful of the water administered at intervals of three hours she has cured a patient sinking in the last stages of typhoid fever. The highest attenuation of homeopathy, and the most potent, steps out of matter into mind." [10] She brings in the everlasting contradictions, of course. The non-existent matter, common salt, made into a high homeopathic attenuation which does not exist, in a goblet of water which did not exist, and administered every three hours in a non-existent teaspoon, "steps out of matter into mind," and cures a patient of a typhoid fever which he never had.

In surgery Christian Scientists claim to have done some striking exploits. They say they have set dislocated bones without touching them, so that the bones have returned with an audible snap to their sockets. Mrs. Eddy says, "Bones have only the substantiality of the thought which formed them." It must be very interesting to see a non-existent bone, having only the substantiality of thought, which had been dislocated from a socket which never existed, going back without being touched into that imaginary socket with a thump audible to all the bystanders. Still, these healers realize that bone surgery is not very easy, and Mrs. Eddy herself says, "until the advancing age admits the efficacy and supremacy of mind, it is better to leave the adjustment of broken bones and dislocations to the fingers of a surgeon, while you confine yourself to mental reconstruction and the prevention of inflammation." [11]

There is a famous case of cancer said to have been cured by Mrs. Eddy, which Christian Scientists relate with great pride. The *Literary Digest*, Dec. 31, 1898, quotes her statement of it as follows: "I have healed at one visit a cancer that had so eaten the flesh of the neck as to expose the jugular vein, so that it stood out like a cord."

Why do these people say at one time that the disease never existed, and then describe its horrible character and boast to us how they cured it?

Mrs. Eddy and all the healers constantly repeat the old statements so familiar to all practitioners, about the cases "given up" and voluntarily abandoned to die by discouraged physicians, when the fact was that almost invariably if the physician left he was dismissed by the patient, and did not voluntarily give him up. The law of medicine and the honor of a physician require him to stand faithfully by his patient, and relieve his suffering, even if he can not finally save his life. Most practitioners have heard these false rumors so often about themselves and others that they pay little attention to them, knowing their falsity in almost every case. An inspired discoverer and healer ought not to be so easily imposed on by gossiping neighbors.

Mrs. Eddy was called to a desperate case of labor said to be about to die. She tells the old story about several physicians pronouncing the case hopeless, and then going off and abandoning the woman, without assistance—an obvious error on the face of it, but derived doubtless from the excited attendants and neighbors, and not from Mrs. Eddy herself. Mrs. E. says: "After entering the room, I had stood by her (the patient's) side about fifteen minutes when the sick woman arose from her bed and was well. . . . "It is sufficient to add her babe was safely born, and weighed about twelve pounds." [12]

[8] Ibid., p. 8.
[9] Rules and By-laws First Church of Christ, Scientist, Chicago, p. 10.
[10] Science and Health, p. 46. [11] Ibid, p 400.
[12] Retrospection and Introspection, p. 49.

Considering there was no body to this bouncing offspring, and not an ounce of matter in it, but only a round, plump convolution of spirit or some other metaphysic manifestation or "reflection" of "immortal mind," twelve pounds on the scales was a very satisfactory result, and Mrs. Eddy ought to be proud of it. Evidently her kindly mother instinct got the start of her philosophy when she contemplated that splendid baby. We will honor her womanly heart, even if we have to allow something off from her philosophic acumen.

For one engaged in controversy in a great theologic and medical storm-center this writer seems remarkably free from the spite and animosity common among persons thus situated. Apparently, she is genial, and seriously modifies her statements to avoid giving pain to old friends. She is weak in philosophy and logic, and her writings lack orderly arrangement, and although she calls her system "Christian Science," there is almost no science in it, according to the meaning of that word in the usage of English-speaking people. She has, however, a genius for strong and eloquent appeal to those religious feelings which are common to all mankind, and this talent is very powerful in winning favor for her medical errors.

The following is one specimen among many, of her eloquence: "For victory over one sin we give thanks, and magnify the Lord of Hosts. Then what shall we say of the mighty conquest over all sin? A louder song, sweeter than has ever before reached high Heaven, now rises clearer and nearer to the great heart of Christ; for the accuser is not there, and Love sends forth her primal and everlasting strain." [13]

CONCLUSIONS.

As a religion, Christian Science is attractive to a considerable number of persons who are dissatisfied with all other churches, whether "liberalist" or otherwise. As a philosophy, it is obscurely expressed in paradoxes and contradictions, but ornamented with many shining symbols and metaphors. It is really a species of pantheism, teaching that "God is All in All," and nothing else exists; but the authoress, moved probably by the fear of prejudice against the term "pantheism," rejects it, and shows that the German idea differs considerably from hers.

As a science, the claim for it is inadmissible, there being scarcely a trace of science in her system, in the modern sense of the word. As a therapeutic art, it helps some patients by simply encouraging them, just as all other cheering influences do, and nothing more. There are, however, great boastings about results, but no more alleged accomplishment than we always hear of in all new medical delusions. Every physician knows how each new and temporary "pathy" and "system" parades a great array of astounding cures, extending from Perkins' Tractors of last century onward to osteopathy.

Christian Science statistics do not exist in any valuable and detailed form, because the healers do not examine and diagnose diseases, but simply deny their existence. By denying the existence of matter they absolutely cut themselves off from all help from modern physical sciences. They will get over this after a while. Medical heresies mostly run one course. Starting at first with the idea of being as separate as possible, they reject all they can of the existing ideas. After a time their isolated position ceases to attract attention, their exclusiveness becomes mellowed, and they find they can not get on without the help of the old rejected ideas. They all come at last to this mellowing period, and finally merge back into general medicine.

I presume Christian Science healers will at last find or make some plan by which they can avail themselves of the splendid resources of the physical sciences which at present are forbidden them.

3912 Lake Avenue, Chicago.

[13] Science and Health, p. 560.

ACUTE TUBERCULAR INFECTION.

ITS DIAGNOSIS FROM PNEUMONIA AND TYPHOID FEVER.

BY H. A. HARE, M.D.

PROFESSOR OF THERAPEUTICS IN THE JEFFERSON MEDICAL COLLEGE, PHILADELPHIA.

Among the laity the word "pneumonia" is supposed to represent one definite disease, whereas among physicians a qualifying adjective, such as "croupous" or "catarrhal" is necessarily attached to it with the object of expressing a clear conception of the condition present. As a matter of fact, the word "pneumonia" in its broadest sense is simply a term which indicates consolidation of the lung which usually produces physical signs in all cases closely alike, although widely different in cause and in the consequences to the patient. It is not the intention of this paper to call attention to pneumonia in general, but to two forms of it in particular, and to deal with them not from the standpoint of treatment but from that of diagnosis and prognosis.

So much depends in each case upon the correct diagnosis for the patient's welfare and the reputation of the physician that the question is of importance.

The first form of pneumonia, so-called, to which attention may be paid is that which results from typhoid infection. By this I do not refer to the complicating pulmonary lesions met with in advanced stages of the disease, but rather that condition which ushers in the attack. As Osler has well said, typhoid fever is a multiple infection in which the chief lesion of the disease may be found in other organs than the bowels, and in a larger number of cases than is thought does pneumonia begin with the attack of illness and only later does the character of the infection make itself manifest. The following case illustrates this fact very well and is one of a number which have been met with by the author:

Z., A girl, aged 10 years, was taken ill with rigor and fever, on November 10, having been well enough to be up and out of doors at dancing school the day before. The fever speedily rose to points ranging from 103 to 105 degrees, and remained about these points for the first few days, when it gradually became a little less marked. It failed to respond readily to the use of cold spongings and the cold sheet as a rule, although at times this treatment reduced it considerably. There was but little cough, and at times none of it for two or three days, but the child was somewhat dyspneic, particularly at night, and cyanosis was marked. The pulse was usually as high as 120 to 130, and restlessness was constant. At times, particularly at night, there was delirium. An examination of her chest revealed at the right middle lobe the physical signs of consolidation, that is, bronchial breathing, dulness on percussion and absence of vesicular sounds, with exaggerated breathing elsewhere. At the left apex similar signs were present, and it was evident that the child had pneumonia. The facial expression, the somewhat dry lips and tongue, and the color of the patient's skin, combined with the fact that pneumonia often is due to infection by the bacillus of Eberth, made the physician who called me in consultation and myself cautious as to the diagnosis of the case and the prognosis and, equally important, careful as to our treatment. The parents were told of the condition of the lung and of our suspicion that something other than a pure pneumonia infection was present, and we waited for the

day of ordinary crisis with anxiety. On November 12, the temperature fell somewhat and seemed to give promise of relief, but on the next it maintained its course; the tongue was found to be more enteric in appearance and the rose rash of typhoid fever appeared on the chest and belly. Further careful palpation at this time showed a slightly enlarged spleen and liver—an alteration in those organs not previously found—and diarrhea or rather looseness of the bowels supplanted a tendency to constipation.

Under our older ideas of those diseases it would have been thought that a primary croupous pneumonia had merged into a typhoid fever by a gradual process of developing asthenia, or again, that a double infection with the micrococcus lanceolatus and the bacillus of Eberth had taken place, whereas, at the present time we know that, while such a double infection is possible, a single typhoid fever infection may result in primary pulmonary symptoms. The second condition is not far removed from that just named; indeed, it may resemble both pneumonia and typhoid fever in one case, pursuing a course similar to that just named very closely.

I refer to acute pulmonary infection by the bacillus tuberculosis. Without the error of diagnosis of typhoid fever, typhoid pneumonia or congestive chill with malarial infection is often made, when in reality tuberculosis is the cause. This is the more apt to be the case because its onset is often as sudden as is that of true croupous pneumonia, and it may arise in a patient apparently in the best of health. Thus, a man of about 30 years of age entered my wards at St. Agnes Hospital with a history of having been exposed all the previous day to a cold rain while acting as a huckster. During the night he had an exceedingly severe rigor followed by a high fever and this in turn by a drenching sweat. There was no history of illness previously, although his friends asserted that he had not looked well for some time. The entire left lobe, at the time of admission, was consolidated, and there were signs of diffuse general bronchitis all over the chest. The man died in active delirium at the end of fifteen days and the autopsy revealed widespread miliary tuberculosis.

Other cases which have not been so clearly defined might be cited in which the patient, seemingly suffering from an attack of acute pneumonia, has failed to convalesce as expected, has failed to reach a crisis, and the signs of so-called resolution of the consolidation have been really those of rapid pulmonary breakdown. In such cases, if the pulmonary signs are not frank and open, the profound asthenia into which the patient speedily passes, the diarrhea, tympanites and meteorism may lead the physician into a diagnosis of typhoid fever following pneumonia or due to the same infection as already stated.

This subject is also associated with medicolegal questions of great importance. Thus, I was recently called in a case in which a man well advanced in years was thrown from the platform of a moving street-car and struck on his side. Within a few days he developed symptoms of pulmonary consolidation, became actively delirious and almost uncontrollable. He died a few days after; the postmortem showed that he had died of a pneumonia due to tubercular infection arising from low-grade chronic tubercular disease, due to the fact that he had knife-grinder's disease, from his trade. In this instance the injury broke down the protection afforded by nature to protect his lung from general infection, and the bacillus at once became an active element in the production of his death. His family sued the railroad company, whose defense was that as the disease was tuberculosis and not ordinary pneumonia, the accident was not responsible for the pulmonary change which caused his death. It was testified, however, that he might have lived for years without illness if the accident had not converted a chronic affection into an acute one, and a verdict was given for the plaintiff.

Finally, let me say a word about a possible error often committed, namely, the mistaking of tuberculosis for typhoid fever. Some time since I saw a case in consultation in which the physician stated that it was a prolonged case of enteric fever, having lasted four weeks with no sign of an approach to convalescence. A careful examination of the patient revealed the fact that instead of being the disease named it was one of general tuberculosis, the fever, diarrhea, wasting, meteorism and general asthenia being due to this cause.

It is true that the best text-books tell us of these things, but it is also true that only by frequent repetition can their importance be grasped and recalled at times when their recollection is vital to all concerned.

GUNSHOT WOUND OF THE ABDOMEN.

A REPORT OF FIVE CASES.

BY RICHARD DOUGLAS, M.D.
NASHVILLE, TENN.

In the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION of Nov. 19, 1898, Dr. Senn reports four laparotomies for gunshot wound of the abdomen performed in the First Division Hospital, the only ones to his knowledge during the Cuban campaign. All the patients died. The same author says: "I have seen numbers of cases of penetrating wounds of the abdomen in the First and Third Division Hospitals that were on a fair way to recovery *without operation* before they were sent home on the transport ships." It is to be regretted that he was not specific as to numbers and the ultimate issue; the matter is too important to be casually disposed of. One is not surprised that he should seek and be pleased in finding confirmation of his previously expressed views, "that not infrequently cases of penetrating wounds of the abdomen will recover without active surgical interference." All Dr. Senn's contributions—and they have been marvelously numerous—based upon his observations in the late Cuban war have been a source of much pleasure and information to his readers. It is to be feared his conclusions will prove a serious obstacle to surgical practice, and unfortunately tend to dislodge the well-established opinion that penetrating gunshot wounds of the abdomen require immediate laparotomy. This dictum was expressed in formal resolution by the Southern Surgical and Gynecological Association at its meeting in Nashville in 1897.

Dr. W. E. Parker, a volunteer surgeon in the late war, who has had unusually successful experience with gunshot wounds of the abdomen in private and hospital practice, while admitting that 50 per cent. of penetrating gunshot wounds of the abdomen received during the last war recovered without operation, still believes in laparotomy in every case in civil life. His plea for inactivity is based upon the small bullet, the high velocity, the want of facilities for the execution of a technically perfect operation and the empty con-

dition of the alimentary canal. The last argument may be used in defense of the commissary department, but certainly is not available as prophylaxis. Every abdominal surgeon knows the advantage of having the alimentary canal empty and the intestines like ribbons, but this is a condition not to be expected in accidental conditions. Entirely too much stress is laid upon the size of the bullet. One of the most destructive wounds of abdominal viscera that has come under my care was inflicted by a missive from a 22-caliber Flobert rifle, producing seven perforations of the intestines, one a linear cut in the mesenteric border 1½ inches long. Any perforation that will permit an eversion of the mucous coat, by which means these small perforations are said to be temporarily closed, will also permit extravasation of the fluid intestinal contents. The size of the bullet, then, should not enter into the question for or against operation.

It must be admitted that, in military practice, facilities are not at hand, and this is the only justification of an inactive course. In private practice oftentimes these gunshot wounds fall primarily under the care of men in remote country districts. Unquestionably a patient's chances are better for recovery under starvation and opium than they would be if subjected to an operation by an inexperienced, unskilled practitioner. The amount of injury produced by a missile penetrating the abdomen is essentially problematic, and the reparative surgery necessary may test the skill of the most accomplished; celiotomy should be undertaken in full recognition of these grave responsibilities. "Fools rush in where angels fear to tread."

I can not deny the good-natured aspersion of the editor of the *Medical News* when he says, "our Southern brethren, whose opportunities for seeing gunshot wounds of the abdomen are comparatively greater than those of the Northern surgeons," as I have to submit a report of five cases of gunshot wound of the abdomen, all occurring within a few weeks. I have previously reported other cases that have come under my care.

Case 1.—George Johnson, male, colored, aged 21 years, a laborer of robust physique, was admitted to hospital Sept. 21, 1898, at 6 P.M. In a street encounter he had received four gunshot wounds: one of the hand, one of the left ankle-joint, a third in the left lumbar region midway between crest of ilium and twelfth rib, one inch from external border of erector spinæ, and the fourth wound in the left inguinal region one inch above center of Poupart's ligament. Notwithstanding the number of wounds, the patient was in good condition when placed on the table at 9 P.M., three hours after receiving the wounds. It was impossible to ascertain exactly how many shots were fired, but from the nature and relation of the wound in the lumbar region to the wound in the inguinal region it appeared possible that they might have been made by the same bullet—one, the wound of entrance, the other of exit. There was nothing in the appearance of the inguinal wound diagnostic of entrance. Conceiving that it might be possible that the bullet had traversed this region without entering the peritoneum, the wound in the lumbar region was enlarged for exploration. It was soon determined that the peritoneum was penetrated. Packing this wound, the abdomen was now opened by free incision in the left semilunaris, extending from the wound, just above Poupart's ligament five inches. We immediately encountered four perforations of the small intestine, and a wound on the posterior wall of the abdomen one inch to the left of the spinal column. There was slight hemorrhage and but little extravasation of intestinal contents. The perforations were all carefully sutured. Wiping clean the peritoneum after having made search for other perforations, I was about to close the abdomen without knowing the destination of one of the bullets, when I accidentally discovered it just beneath the skin in the inguinal region of the left side. This, unquestionably, was the bullet that entered the lumbar region and had passed straight in its course from behind across the abdomen to its point of lodgment. The bullet that entered the left inguinal region had traversed the cavity and lodged in the muscles of the back. The operation consumed about one hour, and the patient was put to bed in good condition.

The subsequent history shows a variable temperature, from 100 to 102 degrees; some disturbance of bowels, and an occasional involuntary action. September 30 temperature was normal and general condition much improved. I did not see the patient again until October 4; he was then *inarticulo mortis*. A large abscess had formed at the lower angle of the incision; leakage into the peritoneal cavity had unquestionably occurred, and death followed in twelve hours from peritonitis, the fourteenth day after operation. Had this mural suppuration been recognized sufficiently early this life might have been saved. His death is not an argument against celiotomy for penetrating gunshot wound, but should be ascribed to faulty technic and septic surroundings.

Case 2.—Will Claybrook, male, colored, aged 17 years, was admitted to hospital Dec. 11, 1898, at 10 P.M. He was shot in a personal difficulty one hour before, the ball entering obliquely on left side of abdomen just at the tip of the tenth rib. There was no nausea or vomiting; pulse full and strong; no evidence of shock or mental excitement. Notwithstanding this fact, it was deemed wise to enlarge the wound of entrance to determine if the bullet had penetrated the cavity. It was easy to follow the track of the wound obliquely through the muscles for two inches, to its entrance to the peritoneal cavity. This incision was now closed and the abdomen opened in the middle line, from ensiform to umbilicus. Pushing aside the omentum, which was perforated, a wound was found on the upper border of the transverse colon, through which there escaped a mass of fecal matter one inch long and as large as a lead pencil. Five inches to the right of this, on the lower border of the colon, was found a second perforation, the wound of exit from the colon. Closing these perforations, most diligent search was made for other wounds and the destination of the bullet, but I was unable to trace it further. As this patient was very much constipated, I put into the lumen of the small intestine, through an aspirating needle, three ounces of saturated solution of sulphate of magnesia. The operation was completed in the usual manner and the patient put to bed, having been on the operating table about thirty-five minutes. His bowels moved in eight hours, and his recovery was uneventful. He was discharged cured, Jan. 16, 1899.

Conservative surgeons who have for so long antagonized abdominal section in these cases, finding themselves routed from their position, are now consoling themselves that "half a loaf is better than no bread," and contend that if the wound is below the level of the umbilicus it is probable that the intestines are perforated, but if above, an operation should not be done in the absence of positive symptoms. My experience in many cases convinces me of the necessity of operation in all penetrating wounds of the abdominal cavity, and of the much greater difficulties encountered in wounds of the stomach, colon or gall-bladder region. An unfortunate experience in a wound of the portal vein of one of our most prominent citizens, only a few days after President Carnot received his fatal thrust, convinced me of the danger and surgical difficulties in these wounds of the upper zone of the abdomen. The case above reported presents the simplest form of wounds in this region, yet I can not believe that recovery would have occurred without operation. Through the large perforations intestinal contents had already escaped, and infection would certainly have followed.

Case 3.—Philip Gartner, male, white, aged 20, was admitted to hospital Dec. 25, 1898. While in an intoxicated condition, he became involved in a difficulty, and was shot by his antagonist; the muzzle of a 38-caliber pistol was placed against him and fired. When I saw him, two hours later, he was in extreme shock; pulse was barely perceptible, and there was great thirst, restlessness and delirium. Surface temperature was cold; thermometer registered 97.5 per rectum. A wound was found in the right inguinal region, on a level with the anterior superior spinous process of the ilium, and just external to the ber-

der of right rectus. His abdomen was distended, and presence of free fluid was easily detected. Notwithstanding his extreme condition of shock, he was hastily prepared for operation, was given a hypodermatic of morphia and strychnia, and the abdomen was opened in center line from umbilicus to pubis. The cavity was full of blood, and when the peritoneum was incised it gushed forth, and handfuls of clots were removed before an examination of the intestines could be made. Four perforations into the intestines were discovered, all bleeding freely. These were clasped with forceps to mark and close them while hasty search was made for the source of so great hemorrhage, and this was found to be from a wound at the brim of the pelvis, near its center, on the right side, from which there flowed freely venous blood. Fearing that I had a wound of the external iliac vein, I prepared to ligate it, my assistant in the meantime controlling the hemorrhage by pressure. Picking up the peritoneum on forceps and slightly incising it, I saw that the bleeding came from a point too far out to be the iliac veins. A ligature on a curved needle was passed around and the bleeding vessel secured. The hemorrhage being controlled, assistants, who had previously prepared a saline solution, now commenced infusion. This was continued throughout the operation, two quarts altogether being given. I now directed my attention to closing the intestinal perforations, which was done with ordinary Lembert sutures. Two of the perforations were very close together, and in closing them, the lumen of the intestine was dangerously narrowed, and I feared I had made a mistake in not doing a resection, but as the mesenteric border was not injured, I decided to risk it. Filling the cavity with normal saline solution and washing out such clots as were easily removed, a glass drainage-tube was introduced to the bottom of the pelvis—an altogether unnecessary and harmful procedure. After the infusion of the saline solution was commenced his pulse perceptibly increased in volume. The patient was put to bed in very much better condition than he was placed on the table; time of operation fifty minutes. The drainage-tube was removed in twelve hours. Two small stitch-hole abscesses formed. At about the tenth day a large abscess formed in the left gluteal region at the site of the saline injection. This was opened and thoroughly packed. He continued to have slight temperature and some diarrhea, but finally made a complete and satisfactory recovery.

Without presuming to settle the much-discussed question of whether shock is a contraindication for laparotomy, I merely wish to state clearly my position in the premises. If the patient is not actually dying and the shock is due to intraperitoneal hemorrhage, whether it be from ruptured ectopic gestation or traumatism, immediate operation should be done. When the bleeding vessel is caught, and not until then, an intravenous or intracellular infusion of decinormal saline solution will immediately restore the patient from his extreme condition. Delay in such cases usually means death from hemorrhage. A syncope and the formation of a clot do not suffice to control the hemorrhage. These natural hemostatics, so potent in surface wounds, are not to be relied upon in intraperitoneal hemorrhage. Fortunately, this operation was undertaken just three hours after receiving the injury; a delay of an hour or less and he would have been hopelessly exsanguinated.

In a recent article in the *British Medical Journal*, upon penetrating gunshot wounds of the abdomen, by John Ward Coussins, F.R.C.S., this whole subject is considered in its diagnostic and prognostic features, and with special reference to operation, and while he urges, and so heads his article, "Immediate Laparotomy in Gunshot Wounds of the Abdomen," the force of his otherwise excellent article is lost by this qualifying statement: "As soon as a diagnosis of visceral injury has been made, *provided the patient has sufficiently recovered from the shock*, operation ought not to be delayed."

The last suture was scarcely taken in this case when an orderly announced that a patient had just been admitted, shot in the abdomen, and I submit the following report of his case:

Case 4.—John Whitsey, male, colored, aged 29, was shot at 2 A.M., and was brought immediately to the hospital. He was screaming in agony, with griping, twisting pains in his bowels, vomiting copiously, pulse very fast and feeble, temperature 98, muscles of the abdomen retracted and rigid, exquisitely sensitive all over surface of abdomen. A small bullet-wound was seen just at the tip of the tenth rib on left side. Patient was given one half grain of morphia hypodermatically, and was placed on the operating table at 4 A.M., two hours after receiving injury. Ether anesthesia. The wound was enlarged sufficiently to show a penetration into the peritoneum. This diagnostic incision was then closed by suture and the abdomen opened from ensiform appendix to one inch below umbilicus. There was considerable blood in the cavity, though no alarming amount of hemorrhage. A small bolus of fecal matter the size of a pea was first discovered, proving conclusively that the intestines were perforated somewhere. Inasmuch as the hemorrhage was not profuse, as soon as the perforation was discovered it was closed by suture. Six different perforations of small intestines were found and treated in this way. A wound of the mesentery near its attachment to spinal column was the source of hemorrhage. There was a suggillation of blood between the mesenteric folds, which was turned out, and an unsuccessful effort made to find the ball. This wound was closed, and sutures were passed so as to control hemorrhage. Every inch of the intestinal tract was carefully gone over. Finding no more perforations, the cavity was washed out with saline solution, and inasmuch as his intestines were distended, notwithstanding the number of perforations, the patient's colon was full of fecal matter, I injected into the bowel three ounces of saturated solution of sulphate of magnesia. The operation was completed in the usual way, the patient having been on the table less than one hour. Two pints of normal saline solution were given by Dr. Young while the operation was in progress.

The subsequent history of this case is uneventful. For the first twelve hours there was slight nausea and vomiting, after that the bowels had acted well and the patient was well and out of bed January 23.

This is another of those supraumbilic wounds which are so frequently spoken of as enjoying a remarkably good chance of recovery. The hemorrhage and number of perforations found more than justify the immediate action taken.

Case 5.—Mary Black, female, colored, aged 15, was admitted to hospital Dec. 26, 1898. A toy cannon, charged with powder, rags and paper wadding was placed on a table ready to fire. She passed immediately in front of it, about four feet distant from the mouth of the cannon, when it was discharged. The charge struck her in the right inguinal region. The accident occurred at 5:15 P.M., and I saw her at 7:30 P.M. Her general condition was fairly good; some shock, but no nausea or vomiting. Examination of the abdomen showed a lacerated wound three inches wide and four inches long, of the abdominal parietes, through which protruded several coils of intestines. These were burned, charred and lacerated; particles of clothing, paper and unburned powder were found imbedded in the tissues. Operation commenced at 8 P.M., under ether anesthesia. The peritoneal opening was about the size of a dollar, and it was enlarged to the full extent of the wound. The injured intestines were now drawn out and examined. They were so lacerated and stripped of their mesenteric attachment that it was useless to think of anything else but resection. Drawing out the injured gut and wiping thoroughly, I removed from the cavity a quantity of clothing, paper and unburned granules of powder and blood; thus the field of operation was made comparatively clean. Five and a half inches of intestines were burned and lacerated; this was drawn out and enveloped in gauze for protection from leakage until healthy bowel on each side was reached, and resection was quickly made, the Murphy button being employed in the anastomosis. A few precautionary Lembert sutures were taken, and a glass drainage-tube was introduced into the pelvis, all charred and lacerated tissue was cut away and the edges of wound approximated surprisingly well, leaving ample space for drainage. Patient was put to bed in good condition; drainage-tube was removed in twelve hours. Bowels moved on third day; there was never any distension of abdomen, nausea, vomiting or untoward symptom. There was slight temperature, due to suppuration in parietes from injured tissue. The button passed on fourteenth day; abdominal wound is now perfectly healed, and patient is ready to be discharged perfectly well.

This case is only notable for the fact that, notwith-

standing the destructive nature of the wound and the extensive injury to the intestines, the patient showed but little or no shock.

The salient point to be observed in these cases is that all the patients were subjected to operation in less than four hours from time of injury. Three of the patients evinced great shock, one, Phil Gartner, was *in extremis*.

The technic observed in all these operations was based upon the general principles governing abdominal surgery. Ether was preferred as the anesthetic in all cases. It was not necessary to wash the stomach out as a preliminary measure in any of them, as some hours had elapsed since taking food. In three of the cases the wound of entrance was enlarged to definitely determine its penetrating character. In one of these this exploratory incision served, when sufficiently enlarged, for the intra-abdominal work. In all the other cases, however, an incision was made in the median line. Guy-rope retractors were used. On opening the abdomen the first step in each case was to control hemorrhage, but in the search for the bleeding point, if a perforation was discovered it was caught with forceps, thus marking and temporarily closing it. After the arrest of hemorrhage a saline infusion was given. It does not appear to me to be rational to rely upon this great restorative until the bleeding point is caught. The great increase of the volume of fluid in circulation and its greater fluidity would certainly favor increased bleeding. In seeking for intestinal perforations a tape was passed around the bowel, through the mesentery, and with this as a guide, every inch of the small intestine was carefully gone over on each side, the greatest care being taken in every instance to avoid evisceration. I can not conceive of any instance where this is necessary and it certainly intensifies shock and involves an amount of exposure and manipulation prejudicial to resumption of normal peristalsis. In Case 3, Phil Gartner, there were two perforations very close together, and when sutured, the lumen of the intestine was greatly narrowed. It is true that this patient has recovered, but I believe under similar circumstances it would be wiser to do an anastomosis. Owing to the amount of extravasation of intestinal contents and hemorrhage, the general cavity was thoroughly irrigated with normal saline solution in two of the cases. In the others I merely relied upon dry sponging. Drainage was used in the case of Phil Gartner, and I am convinced that this was unnecessary; the peritoneum was competent to take care of any small clots that may have been left after irrigation. In the last case, Mary Black, drainage was demanded from the nature of the wound.

Believing that the greatest danger in intestinal wounds is from arrested peristalsis and distension of the intestine with gas, in two of the cases I employed an injection of epsom salts with the hope of obtaining early evacuations of the bowels. In one instance the bowels moved in three hours, in the other in twelve. This is an exceedingly satisfactory procedure, and I have repeatedly used it since its suggestion by McCosh. Leakage is more likely to take place through a wound if the gut is distended with gas than it is by any amount of vigorous peristalsis excited by purgation. All the patients received one dose of morphia—$\frac{1}{4}$ of a grain hypodermatically—immediately after operation. It was not necessary or advisable to repeat it. The diet was broths, fruit juices and a little milk for ten days; after that time they were allowed to eat liberally.

All these cases were done at the Nashville City Hospital, with the assistance of Drs. Fox and Ward, and in the presence of Drs. R. E. Fort and N. G. Tucker, superintendents.

NOTE.—Since writing the above report, I have learned that Case 3 has developed some post-operative complication, but I do not know its nature.

PHONATION.

Presented to the Section on Laryngology and Otology, at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

BY EPHRAIM CUTTER, LL.D., M.D. (Harv., 1856, and Univ. Pa., 1857.)

NEW YORK CITY.

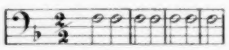
For thirty years there has seemed to me no difference between phonation (speech) and cantation (song), save in the length of the basic vowel sounds. The action of the nares, antra, pharyngeal dome, frontal sinuses, lips, teeth, tongue, soft and hard palates, epiglottis, breath-bands (false vocal cords), arytenoid cartilages, interarytenoid band, trachea, lungs, diaphragm, ribs, abdominal muscles and air are the same in both—or to shorten this text, the "oripulations" (*os*=mouth, *plenum*=full) are alike in both. Indeed, as the writer showed in a paper published in 1873, "speech may be termed staccato song." A year later this view was published as original in London by an English observer. And now the serrations on the cylinders of the phonograph or gramophone have demonstrated the truth of this position, so that the kinship of phonation and song is proved. These things being so, the writer has thought for many years to ask the question: *Why not phonational harmony as well as musical harmony?*

It seems fit to make this query in this Section, as without laryngology and otology it is impossible to understand this subject, and because the writer's knowledge has mostly come from autolaryngoscopy and autorhinoscopy. It makes no difference if medical doctors as a whole are among the poorest speakers. Phonation is a physiologic function belonging to the wide domain of medicine. Our country would be much better off if there were less lawyers in legislative bodies and more physicians there who could rise to the true dignity of their oratoric birthrights. Having looked in vain to the professors of music, law, theology, oratory, physics and physic, the writer presents these ideas in the hope that some of the legion of distinguished younger throat specialists may perfect them, to the good of man.

Starting out with these views and also with the sentiments that phonation means the gift or communication of something of more or less importance by the medium of speech to other minds, and that a diminution of this full gift means loss and disappointment—if you pay $1 to hear a speech, and the speaker or auditorium is so faulty that you hear only 75 per cent., it follows that you have been defrauded of 25 cents—the writer suggests that *speech should be in the chords of the keynote of the auditorium*, because Helmholtz, a double doctor of physics and physic, averred that every room has its keynote and because music, whose keynote is the same as that of the auditorium where it is produced, is the most effective and at its best.

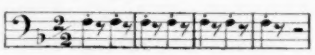
For example, the church auditorium of my boyhood had as a keynote F. Music in F sung or played in that church went with a rhythm and vim that roused enthusiasm and made the walls ring joyously. In 1850 Mr. Simmons, the organ-builder, while setting up a new instrument in this auditorium, was voicing the 16-foot open diapason pedals. He had much trouble with the F pipe. A Yale student home on vacation watched him for hours. Do what he could, Mr. S. was unable to give an even temperament to the scale. He would play C, D, E, F, G, A, B, C, over and over again and adjust the voicing. It was smooth and even throughout, except the F or Fa pipe, which would stick out like double great primer type among pica. Forty years afterward the student found that the trouble was because F was the keynote of the auditorium, as it is of the majority of auditoriums, according to the writer's experience.

Having found the musical keynote of the auditorium it is easy to find the phonational keynote. For example, take the above auditorium, sing the bass as follows: 0=60 metronome.



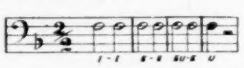
While with ceaseless course the sun.

Then sing the same staccato—



While with ceaseless course the sun.

and quicken the time in repeat if you do not catch the idea. You will then have phonation with rests between each syllable. Leave out the rests and you will have ordinary speech in the key of F. Perhaps the definition of phonation should be "staccato song without rests," if such a thing is possible in nomenclature. If the accomplished members of this Section will study this phase on their own vocal bands, I think it will be understood, with this reservation—it is impossible to sing words with the living vocal cords exposed to view in the laryngoscope, because the vowel sounds only can be sung. For example, the above phrase would be:



so that you can only use the larynx under sight or view as you play an organ or violin. Laryngoscopic song is simply playing as on an instrument. Hence we iterate, speech should be in the keynote of the auditorium, not necessarily on the keynote all the time; but that speech should have a keynote the same as in song, and melodiously depart from it, returning to the keynote or its chord at the end.

Take "Maxwellton Braes are Bonnie." It begins with the third chord of the key of C, runs down to C, then jumps an octave and ends the first line on A in the key of F. But in the next line the song immediately comes down to G, the fifth chord from C, and so this melody runs in a most natural, easy and graceful style and ends on the keynote C. Now, when speech has the beautiful musical progression of this most exquisite but beautiful gem of Scottish song—which my son, Prof. Benjamin Cutter, of the New England Conservatory of Music, pronounces to be one of the most admirable of all secular songs—then phonation will produce the delightful effects of musical speech sometimes heard and long remembered. Thus phonation will be intelligible, easy to utter, easy to listen to, and not tiresome to hearer nor speaker. This opinion is based on facts like the following: In 1888 the writer had a paper to read before the AMERICAN MEDICAL ASSOCIATION, Section of Medicine, whose auditorium was a music hall with a holding capacity of 6000 people at least. About one hundred and fifty to two hundred men were present. Fortunately the keynote F was struck and held, as confectioners use a string for rock candy crystals that cluster in a chain of prisms. A critic present said that the address was heard perfectly and easily. The speaker got rested from his lantern demonstrations, which had taken most of the day up to 5 P.M. and tired him so that when he began to phonate, his knees almost collapsed under him. This severe test is worthy of evidence here.

At the meeting of the British Medical Association, held in Leeds in 1889, the writer was a delegate from the AMERICAN MEDICAL ASSOCIATION. A banquet was held in Albert Memorial Town Hall—700 plates. In this auditorium, as usual, the architects had catered for the eye, with magnificent walls and pillars of polished variegated marbles, and had given besides, a general visibility of the platform to the whole audience. But so sadly had the architects neglected the ear as to make it almost impossible to hear what was said by the phonators. The fault did not all lie with the construction of the hall as, to repeat, it is notorious that physicians are usually sorry public speakers. The writer was unexpectedly called on to respond to the toast for foreign guests. Now, thought he, is the chance to test this rule of phonation. Hence, the main effort was to hit the keynote of the auditorium, making the words secondary. This effort took away all stage fear and made the speaker feel very much at home before the brilliant audience. He said: "The delegate from the largest medical society of the new world brings greetings to the largest medical society of the old. Peace and good will; our hearts are with you. Long may you prosper"—and then the speaker was interrupted by a sudden bursting of a storm and din of applause, which certainly proved that this principle of phonation was correct. It is needless to repeat the rest of the address, but it may be said that it was the last speech of the evening, when all were tired out, and that several gentlemen came to the speaker afterward, shook hands most cordially and thanked him for his speech, all saying, "because we could hear what you said!"

At the TENTH International Medical Congress, held in Berlin in 1890, the writer read five papers and made one address in the Section rooms, which were the salons of a picture gallery, constructed for the eye and not for the ear. Consequently it was very difficult to hear, and there was a habit of the uninterested, because not understanding, listeners of leaving during the exercises. The rule laid down about phonation was applied here, and if interested and continued attention of the audience is any criterion, speech in the chords of the keynote of the auditorium was a success. In some respects this was the severest test, because of its varied application and its uniform satisfactoriness.

Another rule which I venture to lay down is that *architects build auditoriums for the ears primarily and for the eyes secondarily.*

What does "auditorium" mean? A place for hearing! How oft it is the place for not hearing! One

such as at Saratoga, of bad repute for hearing. But even in this auditorium when empty—which is deemed worse than when full of people—I found that phonation in was easily audible. There are two ways in which architects can get at this:

1. The concrete. Taking auditoriums which are known to be easy to sing and speak in. Such a one is the auditorium of the first Congregational Church, Woburn, Mass. The late John Stevens of Boston, its architect, told me that he had put the best work of his life into it and wanted it to be his monument. He certainly favored the ear and eye both. There is not a seat of the fifteen hundred but commands a perfect hearing and view of the preacher or speaker at the pulpit. Prof. Alonzo L. Butterfield, Ph.D., of Boston, elocutionist, enthusiastically wedded to his profession, after specially testing during a visit made for this purpose, pronounced it to be the best auditorium for phonation he ever met with. Clergymen have testified to the same; singers also. For several years the writer was a tenor in the choir and soloist. It was easy to reach

while at the dedication of this church the soprano soloist easily ran up to Thus, incidentally, is shown the advantage of an aurally correct auditorium for musical and phonational performances. Major Ambrose Bancroft of Woburn, Mass., master carpenter, has given me the following dimensions of the auditorium: Height of ceiling from floor, 34 feet 10 inches; width, 80 feet; length, 150 feet; width of side galleries, 11 feet; width of rear galleries, 14 feet.

The chapel of the New York City Church of the Comforter is easy for the ear. The auditorium is 25 by 50 feet, open to the roof; height of ridge pole, 18 feet.

2. Ideal. Study the nodes of the key of F, for example, and have the walls and height correspond to them. In an auditorium already complete with organ, let the organist play the pedal notes singly till the keynote is found, then walking in the direction of the long diameter of the auditorium, note when the tone is loudest and weakest. In the Woburn church, I found the node of the keynote to be about fifteen feet. Such physicists as Prof. J. Solis Cohen, M.D., Prof. S. F. Barker, M.D., University of Pennsylvania, and others, would, I think, gladly aid architects in this humane work.

While I would have orators trained for speaking in the chords of the keynote of auditoriums, I would also insist on architects following the example of the late John Stevens, aforesaid, and give us auditoriums that will be things of aural and optical joy, beauty and delight as long as they endure. But when architects build solely for the eye, come out and say so, eschewing all use of the ear, and when nine out of ten of their buildings will be an abomination to all who go to hear what is said or sung, it is high time to call a halt and compel them to take counsel of the experts named, and furnish better construction.

The following is a study in phonational harmony to illustrate the recommendations given: Matthew ix, 27–38, inclusive. *Speech parts:* 1, text; 2, blind men; 3, Jesus Christ; 4, the multitudes; 5, Pharisees.

It is natural that these parts should be in different tones. Voices differ as much as speakers. Taking the New England (Boston) Conservatory of Music scale, where A in the treble clef has 432 vibrations per second, it is evident that 1 could use 423 vibrations to the second; 2 could use 433; 3 could use 434; 4 could use 435; 5 could use 436 vibrations to the second of time, if they chose to; even fractions of these numbers they could use. But for our purpose of illustration let us use the chords of F, i. e., 5 below—1:3:5:8. Or using male voices, let the text, 1, be F; 2, blind men be F; 3, Jesus A; 4, multitudes C; 5, Pharisees C.

Dispensing with verses, the phonational harmony might be as follows:

1. And when Jesus departed thence two blind men (2) followed him crying and saying:

2. Thou, Son of David, have mercy on us.

1. And, when he was come into the house, the blind men came to him, and Jesus (3) saith unto them:

3. Believe ye that I am able to do this?

1. They said unto him,

2. Yea, Lord.

1. Then touched he their eyes, saying:

3. According to your faith be it unto you.

1. And their eyes were opened and Jesus straitly charged them saying:

3. See that no man know it.

1. But they, when they were departed, spread abroad His fame in all that country. As they went out behold, they brought to Him a dumb man possessed with a devil. And when the devil was cast out, the dumb spake and the multitudes marvelled, saying:

4. It was never so seen in Israel.

1. But the Pharisees said:

5. He casteth out devils through the Prince of devils.

1. And Jesus went about all the cities and villages, teaching in their synagogues and preaching the gospel of the kingdom, and healing every sickness and every disease among the people. But when He saw the multitudes He was moved with compassion on them, because they fainted, and were scattered abroad as sheep having no shepherd. Then saith He to His disciples:

3. The harvest, truly, is plenteous; but the laborers are few. Pray ye, therefore, the Lord of the harvest that he will send forth laborers into His harvest.

This may be chanted or intoned, the reader following the musical pitch; then sung staccato; next, staccato without rests. While speech may vary like song, from the keynote, still, speech should close on the keynote or its chords like song. Often have I heard male speakers close on the minor third octave below. Thus, taking for keynote, the last few words were spoken in and the final word in a thing, I think, not allowed in song harmony, and which leaves a very bad impression on the audience, unless it is a funeral service, and even then I doubt its propriety.

Finally, the rule for phonation in the chords of the keynote of the auditorium is not exactly new. My classmate at Yale, U. S. Senator W. M. Stewart of Nevada, told me that whenever he spoke in a new place he had a man stand at the remotest part of the auditorium who would raise his hand above his breast when the pitch was too high, and below his breast when the pitch was too low; but when it was right and the audition was perfect, the man would hold his hand at his breast, still. The senator would then adhere to that pitch as his central thread of utterance. I think it was he who said that Cicero did the same thing. But the Senator said that he did not know before that the pitch was the keynote of the auditorium that they were after in phonation.

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Injections into Subarachnoid Space.—Infinitesimal amounts of toxins produce extremely rapid and intense reactions if injected into the subarachnoid space, as Reale and Boari have found in experiments on various animals. Acetone is so slightly toxic that it has been denied any participation in the production of diabetic coma, but one gram to the kilogram kills dogs of over three kilos in three hours, injected into the subarachnoid space. The symptoms noted after the injection of a substance vary in intensity with the amount, but are essentially identic for that substance; tetanic with indican, for instance; convulsions and depression with sodium lactate; depression and increased reflexes with oxalic acid, etc. The needle is inserted horizontally under the dura, not touching the brain. The injected substance blends with the cerebrospinal fluid, and the brain matter is uniformly and almost instantaneously impregnated with it, affording a superior method of research for intoxications in general and for the auto-intoxications of the human organism in particular.—*Riforma Méd.*, 1898, No. 32.

WHY SYCOSIS?

A PLEA FOR THE ABOLITION OF THE TERM.

Presented to the Section on Cutaneous Medicine and Surgery, at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

BY ALFRED E. REGENSBURGER, M.D.
Chairman of the Executive Committee, Section Cutaneous Medicine and Surgery; Professor of Dermatology in the College of Physicians and Surgeons.
SAN FRANCISCO, CAL.

What is sycosis? I do not know. "An open confession is good for the soul," we are told, and if that ever were true anywhere it certainly is so in this instance. No one can know, unless he has had it previously defined by, or is familiar with the views of, the person using that term, what pathologic process or what clinical entity is understood by it. The want or lack of perfect nomenclature in dermatology is an opprobrium which has attached itself not only to this branch of medical science but also to others as well, since they have been studied as such, and will no doubt cling to them for an indefinite period to come, if not forever—for how long no one can foretell. If we can not arrange a dermatologic nomenclature to our satisfaction, let us, at least, understand what idea we wish to convey when we use a certain term, and if that be impracticable or impossible with the designation which we are wont to employ, then let us eliminate it completely from our vocabulary, and substitute something else in its stead and place. Every one familiar with the subject comprehends the difficulties in the way of having an unchangeable and stable nomenclature in any science which is in a developmental stage, which can never be perfect and complete, for the innate reason that it is, has been, and will be progressive. In consequence, changes and transitions will always take place and will require modifications, eliminations and innovations.

By sycosis, an acne, or more properly speaking, a folliculitis, an eczema or a tricophytosis barbæ may be and frequently is meant, which one in a given case, we do not know, unless the user of the word has informed us. Formerly—and it is not very long ago, being within the memory of most, if not of all of my audience—it was customary among writers upon the subject to make two varieties of this so-called affection, viz: 1, a parasitic form corresponding to a tricophytosis of the beard; and 2, a non-parasitic form, which latter might be an acne or an eczema, a catarrhal dermatitis or a combination of one or more of the pathologic lesions and clinical phenomena which go to make up these diseases when they happen to affect the hairy parts of the body, having coarse hairs, save the scalp, although usually having reference to the bearded face—at times, a veritable pathologico-clinical hydraheaded monster, *informe ingens*. Having made that division, they considered their duty accomplished and left the rest to their unfortunate reader.

What is an acute inflammation of the hair follicles and the neighboring tissues, a folliculitis and a perifolliculitis, usually applied when the bearded face was the region affected, was generally supposed to describe the non-parasitic variety. A differentiation between this condition and an eczema is not always an easy affair, and, we claim, many times an impossibility. One of the main points upon which most stress was laid in the differential diagnosis was that sycosis was primarily a folliculitis and perifolliculitis, and that

when pus was visible on the integumentary surface, the hair was altered, loosened and very easily removable from its follicle, whereas the converse was true if it were a case of eczema. While these quasi-pathognomonic symptoms helped us in the beginning of the trouble to distinguish the so-called sycosis, yet after it had existed for some time, the same held good for an eczema, for the whole thickness of the skin was said to have become involved during that period, the pus had worked all around the hair, loosened and altered it, presenting an identic and similar appearance. Other differential signs also failed us, and some diagnosticians found refuge in the fact of an eczema spreading to the non-hairy adjacent parts while a sycosis did not. How would they explain the folliculitis? Would that be part of an ordinary eczema? Unquestionably, an acne is not an eczema and an eczema is not an acne. That is precisely what such a nomenclature might lead us to believe. In a number of instances we encounter such a degree of catarrhal dermatitis or eczematous inflammation in conjunction with a folliculitis and a perifolliculitis that it is an impossibility to state whether we should call the disease an eczema or a so-called sycosis. We can affirm with no greater degree of certainty whether the catarrhal inflammation — the eczema — was the primary pathologic process and the folliculitis—the acne — a subsequent superadded phenomenon, or whether the reverse order of sequence was the true one. At all events it is impossible to always make a differential diagnosis. If an affection have not pathologic lesions and clinical symptoms which belong to it and enable us to separate it from other affections at all times, by what right can we make a separate disease of it?

The terms "parasitic" and "non-parasitic" sycosis are totally unjustifiable at the present day. With the advances made in bacteriology in recent times we can no longer accept these two divisions, if they were ever permissible. We now know that the entrance of pus organisms into the hair follicles may produce a folliculitis and a perifolliculitis. Modern study and experience have proven to us that while the so-called non-parasitic variety differs from the parasitic in that it is practically non-contagious, still it is due to microbic infection, being a folliculitis caused by the entrance into the skin and hair follicles of the staphylococcus pyogenes aureus, albus and citreus, its organism belonging to the schizomycetes and not, as in the case of the parasitic, to the hyphomycetes. As a result of that genealogy a schizomycetic and a hyphomycetic sycosis have been described. Unna, Tommasoli and other recent writers make a coccogenic, hyphogenic and bacillogenic variety. By making these varieties little has been gained. One thing it has done: it has given us some more big, difficult words. If that be an advantage, then our illustrious colleagues have accomplished something. If we want to be in fashion we may designate the non-parasitic form "coccogenic sycosis." The whilom parasitic form needs only a few words. It is acknowledged to be a folliculitis caused by the tricophyton, and nearly every contemporary writer and dermatologist of note is contented to call it, as it should be called, "tricophytosis barbæ," admitting the name sycosis so applied to be a misnomer. It is, however, the coccogenic, the non-parasitic variety which is the CASUS BELLI. Why should we stick to a meaningless term? What definite idea does the word "sycosis" convey? It does not tell us whether we have to deal with an eczema, with an acne, or with a combination of both diseases, or with some definite, complex clinical or pathologic condition or state *sui generis*. It gives us no clue to its pathology, it sheds no light upon its etiology, it does not declare its symptomatology, nor does it give us any therapeutic indication. What does it do? What right has it to exist? Its advocates claim that it is a conventionalism, a sort of clinical convenience. A clinical convenience, or better, inconvenience, and an absurd conventionalism which means nothing! What is gained by the retention of such a term, which is absolutely meaningless, a remnant of bygone days? A dermatologic, barbarous monstrosity! Eliminate the word; it surely is of no use. Such incumbrances only act as fetters and retard the advance of dermatology. If we must have a word for an artificial condition, one created for descriptive purposes—a clinical convenience, a conventionalism—let us have a term which is more philosophic, which expresses something, which is in accord with modern views and recent advances of our great specialty—dermatology. But we need no new coined word, we have already too many. Why not say that it is a dermatitis barbæ, qualified as need be, follicular or catarrhal, as one or the other condition be more prominent or pronounced? That would be, indubitably, preferable to sycosis.

No. 330 Sutter Street.

RECENT RESEARCHES IN RINGWORM.

Presented to the Section on Cutaneous Medicine and Surgery, at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

BY WILLIAM THOMAS CORLETT, M.D.

L.R.C.P. (LOND.)

Professor of Dermatology, Syphilology and Genito-Urinary Diseases in the Medical School of Western Reserve University; Physician-in-chief for Skin and Venereal Diseases, Lakeside Hospital; Dermatologist to Charity Hospital, and Consulting Physician for Skin and Venereal Diseases to the City Hospital.

CLEVELAND, OHIO.

The ringworm family includes *tinea tonsurans*, *tinea sycosis*, *tinea circinata* and an affection of the nails known as *onychomycosis*. These names are of ancient origin, and, from a scientific standpoint, are not free from objection. Medical writers from the time of Celsus to the present have endeavored to improve the nomenclature of the mycotic group, hence the confusion experienced in attempting their study. In 1842–4 Gruby contributed a series of observations on ringworm of the scalp to the Academy of Sciences of Paris, in which he described a fungus found in the hairs and scales of the affected region. Unfortunately for science, he employed the term "*porrigo decalvans*," which Willan and, subsequently, Bateman used synonymously with alopecia areata, although Gruby's description clearly refers to ringworm.[1] Strange as it now seems, from this confusion of names he was accredited with having discovered a parasite in alopecia areata, which other observers were unable to verify. Hence, for half a century Gruby's discovery has been misunderstood and its importance ill-appreciated. He described two varieties of fungi: one characterized by large spores, which he called *Rhizophyton alopecia*, the other having small spores,

to which the name *Microsporon Audouini** was applied. These observations were confirmed by Bazin.[2]

Working at the same time, and unaware of Gruby's discovery, Malmsten of Stockholm described a fungus found in ringworm[3] which he called *Tricophyton tonsurans*. It is evident the time was not ready for Gruby's fine distinction of the ringworm fungi, and Malmsten's *trichophyton* gradually became the recognized fungus of the ringworm family, or trichophytosis, as it is still called. Although this simplified the study of ringworm, there became apparent serious morphologic discrepancies and clinical variations which were explained in different ways; by variations in soil or structure of the parts attacked, as on the scalp of children, the bearded skin of men, the hairless surfaces, etc. Balzer, after commenting on the variations of the ringworm fungus,[4] concludes by saying: "These anomalies may be explained on two hypotheses. Either there exists a special variety of large spores, or vegetation in the one tricophyton accidentally takes on an extraordinary development by virtue of the position which it occupies. The latter appears to be the true explanation." Again, extraneous conditions known to modify plant life have been invoked to account for many clinical variations in the disease. In personal observations while in Cuba, the lowlands of Mexico and in Northern Africa, ringworm certainly presented an activity which I have not encountered in the temperate zone. This may be due to the undisturbed condition which cutaneous plant life enjoys, among many of the inhabitants of these localities, although other reasons are now known to influence the appearance, course, and termination, as well as the immunity sometimes observed in persons exposed to ringworm.

In 1891 the plurality of the ringworm fungi was again advocated by Furthmann and Neebe of Germany,[5] who described four varieties. Following this came the results of Sabouraud's labor at the Hôpital St. Louis in Paris, which has overthrown our hitherto settled ideas as to the pathology of ringworm. So general is the interest taken in these investigations that at the last International Congress of Dermatology, held in London in 1896, a whole afternoon was set aside for their consideration. Some of the claims set forth in Sabouraud's admirable treatise[6] have passed beyond the realm of theory, and to these we will direct our attention.

It has been definitely shown that there are two principal groups of ringworm fungi found in man, characterized mainly by size and arrangement of spores.

THE SMALL-SPORED GROUP.

The first group is characterized by *small-spored fungi* (botanically belonging to the *Mucedineæ*), but further not yet placed by mycologists, which Sabouraud rechristens *Microsporon Audouini*. It is found only in early childhood, from 2 to 15 years, being most common between 5 and 7 years of age. It is almost entirely limited to the scalp.†

According to Sabouraud the fungus first attacks the hair; later it extends to the epidermis of the scalp, giving rise to a half-dime sized, slightly reddened furfuraceous plaque, with margins ill-defined, although in rare instances it is encircled by an erythematous ring. The hairs become involved near the mouth of the follicle by the formation of a network of mycelia extending upward and downward in the long axis of the shaft. As the plant develops the hairs become gradually enveloped in a whitish sheath composed of small spores, densely packed, resembling a mosaic and called the *spore-sheath*. In untreated cases this dust-like covering is visible to the naked eye. Soon the hairs lose their luster, become brittle and easily broken either at the mouth of the follicle or more commonly within a short distance (6 to 7 micromillimeters) from the scalp, leaving characteristic brush-like stumps intermingled with flat or twisted masses of hairs of a dusty, faded color. At the margin of the plaque the hairs are fine, grayish and without elasticity. When the case is first seen it is usual to find the disease farther advanced, when one or more daughter lesions may be seen scattered over the scalp, smaller in size than the original patch, but presenting the same grayish appearance. It is rare to find any marked inflammatory changes in cases that have not been treated. The mouth of the hair-follicle is sometimes slightly elevated, giving a "goose skin" appearance to the patch. When the hairless or glabrous surfaces are invaded, the lesions present a pinkish, slightly scaly, macular appearance, and rarely do they assume a distinct circinate form.

This variety is extremely rebellious to treatment—except on the hairless surfaces, where it is short-lived—is highly contagious, and is the form usually encountered in ringworm epidemics, and in cases of long standing.

The microsporon gives rise to about 58 per cent. of all scalp ringworms found in Paris. In London, Colcott Fox, in an examination of 432 cases, found between 80 and 90 per cent. belonged to the small-spored variety, while Adamson,[7] in 178 cases, encountered the small-spored variety in 173, or over 90 per cent. Unna[8] has recognized the small-spored fungus in Hamburg, and Fergnani in Barcelona.[9] In this country, Dr. C. J. White has found 95 per cent. of the ringworms in Boston to be of the small-spored variety.[10] Dr. G. W. Wende of Buffalo, in an examination of 90 cases, found the small-celled variety in 89.[11] In Cleveland during the past two years, I have found 65 per cent. of all ringworms to be caused by the microsporon fungus, while in ringworm of the scalp, the microsporon was found in over 90 per cent. On the contrary, it seems wholly unknown in Italy[12] and in Budapest.

MICROSCOPIC FEATURES.

The method of preparing specimens for examination is simple. The hairs or scales from a diseased area are first washed with ether to remove the fat, when they are immersed in liquor potassæ for a few minutes, to dissolve the keratin, when the fungus may be seen. For a more careful examination, a weaker solution is to be preferred. Thus a 10 per cent. solution of caustic potash, in which the hairs are allowed to soak a few hours to a few days, according to the size and color of the hair, answers admirably. Sabouraud recommends that the hairs be placed in a 40 per cent. solution of caustic potash, then carefully warmed; while Colcott Fox and Blaxall found the following to give the most satisfactory results: The hairs were collected in small vials of ether, which was poured off and the vials refilled with a 7 per cent.

* In honor of Audouin, the discoverer of the parasite *Botrytis bassiana*, which attacks living silkworms, giving rise to the disease muscardine.

† Both Adamson and Colcott Fox report adults who have contracted the disease from children, the lesions appearing on the arms, although in one case the scalp was affected. Brit. Jour. Dermatol., July and August, 1895, and July to October, 1896. I have likewise encountered the small-spored fungi in adults, both on the bearded part of the face and on the scalp.

liquor potassæ (B.P.). The specimens were allowed to soak in this from a few hours to several days, according to size of the hairs. The power used may vary from three to six hundred diameters. My experience with staining has not given very satisfactory results, although the mycelia are often beautifully shown by staining with an alcoholic solution of eosin.

The microsporon fungus is made up of spores and mycelia. The former are by far the most conspicuous feature and are always closely packed, very numerous round or oval bodies, having a double contour and measuring from two to three micromillimeters in diameter.

The mycelium consists of transparent, branched or tortuous threads, about the same width as the spores, varying in length, and sometimes divided into segments.

The fungus elements are found outside the hair and intimately attached to the cuticle of the shaft, which they soon displace, giving to the contour of the hair the appearance of a nail eaten by rust. According to Sabouraud, mycelia are found only in a very early stage of the disease. Both Adamson and Colcott Fox, however, have found mycelia in small numbers during the whole course of the disease, and especially at the lower border of the spore-sheath, at the junction of the root-stem with the root-bulb, which Fox calls the "mycelia root fringe." They have likewise found them in the interior of the hair, Broken threads of tortuous mycelia are sometimes seen extending in the long axis or aerial hair-shaft. In some cases the variation in the size of the spores is a marked feature, ranging from three to four micromillimeters, or about half the size of a red blood-corpuscle. Waelsch of Prague has observed a like diversity in size.[13] Both Adamson and Colcott Fox have described large "ghost-like" bodies on the shaft of the hair preceding the development of the mosaic sheath, the nature of which is still not fully determined. The aerial extremity of the spore-sheath terminates a short distance (about three micromillimeters) above the mouth of the hair follicle, and below, as previously stated, a short distance above the bulb. According to Sabouraud, the fungus grows in the direction of the hair.

THE LARGE-SPORED GROUP.

The second or *trichophyton* fungi are placed by Sabouraud among the *Mucedineæ*, genus *Botrytis*, because of their grape-like fructification. These large-spored fungi give rise to the trichophytosis of various parts of the body. This group Sabouraud considers distinct from the microsporon, both botanically, morphologically and clinically, as well as in the results obtained from cultures. This view is not wholly accepted by Colcott Fox and Blaxall, who, after studying numerous cultures, are inclined to regard them as belonging to the same family of fungus, although differing in many important features. It is, however, becoming more generally conceded that the large-spored trichophytons give rise to a distinct clinical variety of ringworm. It varies in frequency in different localities, as do other dermatoses, notably favus; thus in Paris, London, Boston and Cleveland, it forms a decided minority of the ringworms encountered; while in Italy and, according to Nékana, in Budapest, it is exceedingly common and gives rise to the only ringworm met with. It may be well to add that both Mibelli of Parma[14] and Marianelli of Florence[15] confirm Sabouraud's observations, in specimens of fungi which they obtained from Paris.

The *large-spored fungus* is further divided into *trichophyton megalosporon endothrix*, which always attacks the interior of the hair, and the *trichophyton megalosporon ectothrix*, which is always found outside the hair, most frequently between the wall of the follicle and the hair-shaft, and supposed always to be of animal origin. I shall not weary you with further subdivisions, for as yet they are of more interest to the mycologist than to the clinician, but will pass to a few practical considerations of the two varieties mentioned.

TRICHOPHYTON MEGALOSPORON ENDOTHRIX.

This form gives rise to nearly all cases of tinea circinata of the body, to eczema marginatum, to ringworm of the beard or sycosis, without folliculitis, and to ringworm of the nails. It is encountered in all ages, although more commonly in children. It comprises 35 per cent, of the ringworms of Paris, and the great majority of cases observed in Italy. In other countries the result of observations thus far obtained shows a very small percentage of this form.

The disease is much less contagious and yields far more readily to treatment than the small-spored ringworm. It also appears in isolated cases rather than in epidemics. When the scalp is attacked, the epidermis is first involved, giving rise to an erythematous patch, which, when fully developed is usually larger than in the microsporon patch, and more irregular in shape. The hairs within the affected area soon become involved and break off *close to the follicle*. Sometimes only a few are attacked, giving rise to a perceptible thinning of hair, as will be later demonstrated; and more frequently there is complete baldness of the patch, which appears at first sight like alopecia areata. There are, however, small black dots seen upon closer inspection, which correspond to the broken hairs in the mouth of the follicles, which give it more accurately the appearance of a shaved area. In one instance in my own experience, a father, aged 40, contracted ringworm of the scalp and bearded face from his child, in which the microscope showed spores of fairly uniform size, measuring about three micromillimeters in diameter, and situated outside the hair, forming a closely packed and glistening sheath. The disease in the child did not conform in clinical appearance to the description of the microspora previously given, but presented bald, quarter-dollar-sized areas, covered with minute black specks, which corresponded to short hair stumps. In other cases the stumps are longer and present dark club-shaped projections above the level of the skin. Not infrequently the hairs at the margin overlap the depilated area, which, if small, may be almost wholly concealed. The hair-root is extracted with difficulty, as the shaft breaks off on traction, at the follicular opening. The hairs in *Megalosporon endothrix* appear larger than normal, contrasting with the atrophied appearance of the microsporon hairs, and there is no circumpilar dust-like sheath of spores. Generally there are smaller plaques scattered over the scalp, as in the small-spored ringworm. On the smooth parts it gives rise to the well-known features of tinea circinata, with its reddish well-defined border, often studded with minute vesicles, and spreading at the periphery. In the center it presents a furfuraceous, scaly or eczematous area which gradually heals, leaving a ringed margin.

The beard is also liable to invasion, when it presents a mild form of sycosis without suppuration. As on the scalp, the hairs become larger than normal and break off close, one-half micromillimeter from the skin. There is sometimes an erythematous "collarette" about the patch. This form has been regarded as an early stage of the more severe affection accompanied by suppuration of the hair-follicles. In my own experience a benign form of barber's itch is very common. It is usually contracted in a barber shop as the result of a slight cut or abrasion. Within a few days there appears a scaly split-pea sized patch, having at times a serous discharge, and rapidly extending at the periphery. As the disease progresses resolution takes place in the center, which becomes dry, and less scaly, giving rise to distinct ring-shaped lesions. Numerous daughter lesions spring up which are always limited to the bearded part of the face. At other times there appears a roundish patch having an easily detached scaly covering, which extends by the formation of new spots on the neighboring skin. These readily dry up and disappear with the use of any mild parasiticide. This variety of sycosis answers to the description of the large-spored endothrix mentioned by Bodin.[16] The clinical picture between this variety and the suppurating form next to be considered is very striking.

Microscopic Features.—The hairs present a swollen stump-like appearance, which are packed with chains and large, tortuous threads of mycelia, together with a few large, quadrangular, oval or round spores, which vary from 5 to 7 micromillimeters in diameter. The mycelia divide dichotomously and grow toward the bulb, which is invaded at an early stage of the disease. Chains of square-jointed mycelia are also seen, branching frequently and forming a dense network. From the bulb to a variable distance along the free or aerial shaft the fungus is found in abundance.

It always occupies the *interior of the hair*, offering a marked distinction from the microsporon. The parasite gains entrance through the hair cuticle and at an early stage large bundles of jointed rods of mycelia with a few groups of spores may be seen winding around the intrafollicular shaft, or penetrating the cuticle of the hair. These external fungus elements soon disappear and when the disease is fully developed the fungus is found only within the hair. In some cases the spores greatly predominate, completely filling the interior of the hair, which condition has been very aptly likened to a "bag of nuts." The hair cuticle remains unaffected for a long time. The scales in tinea circinata present similar characters, except the spores are less numerous.

TRICHOPHYTON MEGALOSPORON ECTOTHRIX.

This group, which ranks next to the microsporon in clinical importance, is supposed to be of animal origin, and gives rise to the pyogenic forms of ringworm found in man. In childhood it appears in the form of kerion, and in men as a sycosis accompanied with deep suppurative folliculitis. The glabrous skin may also be attacked, when it forms inflammatory deeply infiltrated circular patches, with crusts and small pustules, which are especially prominent at the margin. This variety causes 10 per cent. of the various forms of ringworm met with in France, and about 50 per cent of those due to large-spored fungi. It is derived mainly from the horse, although cats, dogs, pigs, calves and fowls furnish ringworm fungi which, Sabouraud claims, produce in man certain clinical distinctions. Thus the equine fungus, when inoculated on the scalp of children, gives rise to a well-defined inflammation, of a live-red color, swollen, and often accompanied by burning and pain. The skin soon becomes boggy and dotted with numerous suppurating openings which correspond to the sites of the hair-follicles. At other times the patch becomes encrusted, due to the drying of the seropurulent discharge; from which one can readily recognize the honeycomb eruption or kerion of Celsus, which Tilbury Fox, in 1868, first identified as a phase of ringworm.[17]

On the bearded skin of the face this fungus gives rise to a very similar pathologic condition, although on account of the loose underlying structures the appearance differs somewhat from kerion. The disease usually appears about the chin, where its presence becomes known by the formation of pea-sized or large nodular swellings about the roots of the hair. Soon a purulent discharge announces the advent of a deep-seated perifollicular inflammation. The hairs retain their normal condition for a long time. Finally they become swollen, and may be removed by slight traction, or they may be at times thrown off with the discharge. The disease extends backward over the rami of the jaw, but seldom invades the upper lip or extends to the smooth parts. It has been called, for distinction, true sycosis, from its resemblance to the pulp of a fig, hence the Greek cognomen *Sycosis*.

The fungus derived from the cat gives rise to an active inflammation of the glabrous skin, which is well defined at the margin. It is often semicircular, but not pyogenic as in the preceding. It resembles a burn of the second degree. It is not known to attack the beard, and very seldom affects the scalp.

In two observations from the dog, Sabouraud found the lesions more deeply seated, leaving the epidermis intact. On the scalp the hairs broke off within the follicle, giving the appearance of alopecia areata. These observations have not as yet been confirmed by other investigators. In conclusion we may say that the plurality of the ringworm fungi seem no longer a matter of doubt. This has been demonstrated by numerous cultural tests. That they produce well-marked clinical varieties is conceded also by many competent observers, who have most to do with ringworm.

In making culture tests of the ringworm fungi, much difficulty has been experienced in obtaining uniform media. The following has been used by Sabouraud and Blaxall:

Peptone	5
Maltose	3
Water	100
Agar-agar	1

Inoculations are made by extracting a diseased hair, cutting off the unaffected part with a sterilized knife, and placing it on a glass slide previously cleaned and passed through the flame of a Bunsen burner. Scales may be treated in the same way. The hair is cut into small pieces, and by means of a sterilized platinum wire is placed on the sloping surface of the culture-medium in an Erlenmeyer flask, the cotton replaced and put into the thermostat at a temperature of 30 degrees C.‡ With these simple procedures one can usually obtain pure cultures from the microsporon, but the trichophytons are not infrequently completely overgrown by saprophytic moulds. This latter is es-

‡ White, loc cit., prefers a temperature of 37 degrees C.

pecially the case when scales are inoculated or when the specimen is obtained from animals. To obviate this, Fox and Blaxall recommend that the specimen be teased in sterilized water and the diseased hairs selected by means of a lens and again washed in sterilized water. Growth begins on the third day with specimens obtained from the animal, and is always the *ectothrix* variety. The *endothrix* comes a day or so later, and finally about the seventh day the *microsporon* shows signs of growth.

Even at an early stage the fungi may be differentiated, the ectothrix and endothrix appearing as stellate colonies, while the microsporon presents a more compact circular tuft.

It has been asked: Of what use are these investigations, and to what practicable end do they serve? We have endeavored in this paper to confine ourselves to problems confronted in everyday practice—hence I trust this query has already been answered. But, as the subject we have in view is the more successful management of ringworm, it may be well to conclude with a short summary of the treatment found to best meet the new developments of the disease.

TREATMENT.

This conforms to the three main varieties of the disease already outlined.

Microsporon.—Here our first duty is to limit the spread of the affection, by keeping it within the areas involved and from disseminating among other children. For this, segregating the child or enveloping the scalp is imperative. Segregation is not always practicable, but an impermeable dressing, to be mentioned later, which is held in position by a skull-cap or hood lined with a piece of cotton cloth or fine paper is easily made and not especially difficult to apply. The lining should be changed every day or two, care being taken that the soiled lining be either burned or thrust immediately into boiling water. In addition to this, either olive-oil or castor-oil containing carbolic or salicyclic acid (grs. 20 to 30 of the former or 10 to 15 of the latter to the ounce), should be applied daily over the whole scalp. Care must also be taken not to spread the disease by combing or brushing over the affected parts. As Colcott Fox and Blaxall's culture experiment have shown that the fungus may retain its vitality for at least two years, it is necessary to burn all caps, mufflers and jackets worn by children having microsporon ringworm. Unaffected children who are brought in contact with the disease should likewise be subjected to surveillance. They should on no account be allowed to exchange hats or caps, nor to sleep with those affected.

To facilitate treatment the hair should be closely clipped over the whole scalp, and the diseased area either shaved or epilated. The latter is tedious but the more efficient; it may best be done by the use of Duckworth's broad epilating forceps. In young children it will be necessary to deaden the pain by applying a 5 to 10 per cent. ointment of cocain, or one part of carbolic acid to forty parts of glycerin. When several patches are present it is more practicable to shave the entire scalp, which should be repeated weekly.

Some difference of opinion exists in regard to the use of water in cleansing the scalp, some few maintaining that by it we furnish the necessary environment, heat and moisture, for the growth of the fungus. I believe this to be more theoretic than practical, besides it will be found necessary to cleanse the diseased areas frequently from the débris of scales, broken hairs and the medicament employed. For this purpose some strong potash soap should be selected, such as the German green soap, the tincture of green soap, or, in the country, the domestic soft soap as commonly made, answers very well. After washing, the scalp should be dried by the application of alcohol or ether.

I have found benzin of especial advantage at this time, because it clears the way for all subsequent applications. It not only removes all encrusted and adherent sebaceous accumulations but opens up the follicles of the skin in a way that I have not seen accomplished by shampooing or any other application. The next step is the employment of one of the so-called parasiticides. Success in treatment depends more on thoroughness of application than upon the selection of the medicament; for in the small-spored ringworm the royal touch is not alone sufficient, there must also be a wise persistence in the use of the drug selected. The action of the parasiticide may depend upon its direct effect on the fungus itself, or on the change of soil upon which the fungus thrives.

Since chrysarobin was introduced by Balmanno Squire as chrysophanic acid, it has been used quite extensively for obstinate ringworm of the scalp. The action of the drug seems somewhat variable, but in many cases it is the most efficient remedy we possess. It should not be used in very young children, nor about the eyes, lest it set up a conjunctivitis or cause a too severe dermatitis in delicate skins. It may be used in a strength varying from ten grains to a drachm to the ounce of lanolin or traumaticin. The latter forms an impermeable covering and prevents the drug from extending to parts unaffected.

To be effectual the parasiticide must penetrate deeply into the hair follicle; to facilitate this Reynolds advised the cataphoric action of the electric current, and Abraham of London exhibited an instrument at the International Medical Congress at Rome, to force substances into the skin by air-pressure. In my experience the former has failed to produce any marked effect, and the latter I have never used. The best results, I believe, are obtained by first cleaning the skin and opening up the follicles with benzin and using the following vehicle for ointments:

℞. Ol. amygdalæ dulcis.	ʒij	7 80
Lanolini, q.s	ʒj	31 10

On account of their osmotic power, the oleates are highly esteemed in the treatment of ringworm. In my own experience, oleate of copper, ʒiij of the pure oleate to ʒj of vaselin is highly serviceable, the only objection being its unsightly color. The oleate of mercury ʒj of the 20 per cent. toʒj of vaselin is also often followed by marked improvement. Some caution must be exercised when large surfaces are involved, especially in very young children, lest the constitutional effects of the drug appear. Alder Smith speaks highly of the pure oleate of mercury prepared with paralin instead of dissolving it in the oleic acid. Of this 10 parts of the oleate of mercury to 90 parts of heavy petroleum oil are used. It is claimed for this that less irritation is produced, and that it may be used on very young children or on delicate skinned persons. From my limited experience with formalin I believe it will prove a valuable drug in the treatment of the various forms of ringworm. It may be used either in solution or in the form of an ointment, in a strength varying from 5 to 15 per cent. In using it care must be taken that all scales be removed and

the surface thoroughly cleansed either by the use of ether or benzin, to facilitate its penetration.

Megalosporon endothrix.—Milder methods will here suffice. It is in this variety that most drugs establish their reputation for the cure of ringworm, for the disease readily yields to treatment; in fact, it seems in some cases to be self-limited. Situated superficially, as it is, the parasite is readily reached; thus various watery solutions, such as corrosive sublimate, 1 to 1000, resorcin (gr. xxx to ʒi), carbolic acid, etc., are often found to be sufficient. More satisfactory results are usually obtained, however, from sulphur, ichthyol (ammonio-sulphate) or mercury, used in ointment form. In this variety the hair returns on bald areas, and the rigid prophylactic measures so necessary in the microsporon are here not a *sine qua non* to successful eradication.

Ectothrix ringworms.—On account of their pyogenic property these are the most formidable in appearance of all, and their treatment is sometimes a matter of considerable moment. Fortunately, the suppuration which the animal-derived fungus incites is inimical to its life, the disease in consequence runs an acute course.

Kerion.—This calls for epilation, which on account of the destructive process in the follicles, is as a rule, not painful. Cleanliness must be enjoined, and in young children soothing applications are called for, such as carbolic acid, grs. xx to ʒi, a saturated solution of boric acid or hyposulphate of soda. Pus cavities may be flushed by inserting a fine nozzled syringe into the fistulous openings. An incision is seldom necessary, for free exit of pus is usually afforded by the suppurating follicles. Should this not occur, and fluctuation be present, the tumors should be freely opened. A pledget of cotton saturated with the lotion selected should then be applied and changed frequently. When suppuration is less active the tincture of iodin is to be preferred.

Sycosis parasitica.—It is usually necessary at first to remove the crusts by soaking with oil and afterward washing in hot water and potash soap. Epilation and shaving on separate days is the next important step. As the suppuration is usually deeper than in kerion and much induration exists around the follicles, the more penetrating applications should be used. Good results may be expected from an ointment composed of sulphur and oleate of mercury, 20 per cent., of each half a dram to an ounce of the lanolin vehicle previously referred to. The oleate of copper and ichthyol are likewise valuable drugs; the latter may be used in the strength of 15 to 30 grains to the ounce. If much pain exists, free scarification followed by boric acid compression will generally give relief. Poultices should not be used, as moist heat favors the growth of the fungus.

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RICKETS.

IMPROPER FOOD AS THE CHIEF ETIOLOGIC FACTOR IN ITS PRODUCTION.

BY CHARLES O'DONOVAN, A.M., M.D.
PROFESSOR OF DISEASES OF CHILDREN, WOMAN'S MEDICAL COLLEGE, BALTIMORE, MD.

Nearly all the children that are brought for treatment to the dispensary of the Woman's Medical College of Baltimore come from the "Black District" bordering on Druid Hill Avenue and the intersecting streets and alleys. We have children showing all proportions of negro blood, from the wooly-headed pure negro type to the palest yellow of the mulatto, and in the mothers, or friends, who accompany them, we find the widest possible range of intelligence. As most of the women have to work to help to support themselves, and often to take care of children of whom the father is unknown, it follows that the care of the children is frequently entrusted to older members of the family, as a maternal grandmother or aunt, who probably has already children of her own. We have found also that baby-farming is quite an industry in the neighborhood, and always attended by a very high percentage of infant mortality.

After considerable experience with these children, during which time nearly all cases have been investigated as far as the intelligence of the responsible party permitted us to go, we have come to the conclusion that the negroes and mulattoes of Baltimore have but the most rudimentary ideas of the importance of care in feeding infants and young children, and that the universal prevalence of rachitis among them is due almost entirely to this ignorance. Even the children who are fortunate enough to be suckled by their mothers escape the impending disaster only so long as they remain unable to appreciate what it is to be able to eat. As soon as general food can be given them the mother sees in this a means of escaping an irksome duty, and allows the child to stuff itself with all sorts of indigestible food without restraint. Is it any wonder that infant mortality is high among such people? They seem to have no conception whatever of the fact that the diet of children should differ from that of adults, and think the reason that more carefully fed children are refused general food is rather economic than dietetic. They appear to take pride in the ability of their babies to sit up to the table and eat everything put before them, and will boast that nothing ever disagrees with the child. No matter how ill it may be with bowel trouble, food is never thought of as the cause of the ailment. They consider that it is effeminate to allow a child to continue to live on milk exclusively, and it is often brought out in the history that the mother rather discourages the use of milk as tending to retard the growth of the child. Again and again, in reply to questions asked of women showing more than the average intelligence, I have been told that although they knew that white children are usually carefully restricted to milk for the first six or nine months of life, that sort of diet would not suit a "colored" baby, who must have stronger food to enable it to grow big and prepare for a life of labor.

Hundreds of these children die every summer in

Baltimore of gastro-intestinal complaint, yet many survive miraculously, and are referred to as being strong and well, although fed upon everything. They can not see that it is because of their strength that such children are able to live, when so many die and are forgotten. This comes out often in the questions asked in the dispensary. One would think that the loss of two or three children in exactly the same way, from manifestly faulty diet, would teach women even of a low grade of intelligence, but it does not; the child brought to us will have been fed in the same manner, and will show the same intestinal symptoms that preceded the death of the others. Inasmuch as this method of general feeding begins in many instances as early as the fourth or fifth month, at a time when the child is totally unable to digest the character of food that it is allowed to take, it begins to sicken at the time that the first teeth are expected, and any consequent illness is ascribed to teething and treated by means of all sorts of household and advertised remedies, the food being continued.

If the baby grows worse and dies, it is accepted with stoic indifference as one of the usual results of the "teething" process—the great bug-bear of that class, the "scapegoat" on which many grievous sins of diagnosis are annually sent into the desert. I recall a child who was brought to me in October last, who was fourteen months old and weighed but nine pounds. The family history, as far as could be made out, was good; the grandmother, who brought it, was reasonably intelligent, but the usual faulty diet had been allowed. The child was rachitic, extremely feeble, undeveloped, without teeth or any appearance of teeth. Yet that child had been born healthy and had grown and thriven as a healthy child as long as the mother nursed it, and not until it was given all sorts of food did the trouble develop. At about five months it began to eat potatoes and cabbage and any other vegetable or meat that happened to be on the table, and very soon, much to the surprise of the family, it showed signs of distress. "Teething" was accused of the trouble, and it had been "teething" ever since, but without the appearance of a tooth. When the woman was asked if she never gave it milk, she said that milk always disagreed with the child and that it was refused. This was not true, for the child was taken into the hospital and put upon a milk diet, which it took readily, and improvement began forthwith. Even those cases that live through the combined evil influence of bad food and summer heat in most unhygienic surroundings do not escape entirely. Very few of the negro or mulatto children of Baltimore escape rachitis. This might be expected in those who are crowded into confined quarters in the narrow alleys of the poorest districts, but we find it almost as prevalent among those who are able to live in better quarters. It begins very early in life, especially in those cases who give a history of too-advanced feeding, with consequent gastric and intestinal troubles.

With increasing acquaintance with this disease I am more and more inclined to lay the chief blame for rickets rather upon the faulty assimilation of improper food than upon an unsanitary condition of the household. This conclusion has been reached entirely from a clinical standpoint and after collating the evidence offered by a large dispensary clinic of excellent material. The improvement that does undoubtedly come later, even in extremely severe cases with most remarkable distortions, is coincident with the ability of the child to run about and so keep itself in the open air, but is not, in our opinion, due directly to this fact; but in some measure indirectly, as it enables the child to digest and assimilate its food, which it has at last grown up to, and which is the same as it had received from its fifth or sixth month. The limbs do straighten out, and the bony enlargements do, in large measure, disappear, except in extreme cases, under the stimulus of healthy play in the open air, but I am convinced that this is because under the same stimulus the stomach and intestines functionate more correctly, and proper aliment is supplied to the growing bones. We have frequently had, succeeding each other, babies of the poorest class, who lived in the worst condition imaginable, as far as concerned hygiene, and who being suckled by the mother without additional food, showed no sign of rickets, and in contrast, others much better situated in their home surroundings, who were distinctly rachitic and whose history showed improper alimentation. I am aware that the result of these investigations coincides with the general teaching on the subject, and offer this only as additional testimony bearing upon the etiology of a very obscure disease.

10 E. Read Street.

SOME NEW POINTS ON INFANT FEEDING.

Presented to the Section on Diseases of Children, at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

BY W. G. A. BONWILL, D.D.S.

PHILADELPHIA, PA.

The present article is not intended as exhaustive of this subject, which is a very vital one and calls for future investigation, since thousands of lives of infants are ignorantly slaughtered from there having been so little interest taken by the medical profession in the matter, it having been left to manufacturers of nipples as to what is best. While there has been great advance in bacteriologic research, and milk has been Pasteurized and many lives saved, yet there has been no true advance in the improvement of artificial nipples from a humanitarian standpoint. Although more than a thousand different shapes and so-called improvements have been made up to the present; yet, with all that has been brought forth, I found when necessity compelled me to attempt to save the life of one of my grandchildren, no nipple fully met the needs of this case.

By an unfortunate mistake in diagnosis one of the mother's breasts had been totally removed before her marriage, and I then predicted to the surgeon and my daughter that should she ever have a child she would never have milk in the remaining breast; that while I had never read of a precedent, yet I felt sure milk would never come into the remaining breast, since the function was a dual one; and, as no function had ever as yet come to the virgin's breast, now with one gone, I asserted that no milk would ever come to sustain the child in the remaining one. With all the effort made by the accoucheur to force milk into the remaining breast from persistence in trying the child at the nipple, there was no evidence of any secretion, and the effort was only abandoned when the child was gaining none and gave every evidence of starvation. In my absence in Europe to attend the International Medical Congress at Moscow, Mellin's Food and various preparations were tried, but there was no per-

ceptible gain until a wet-nurse was had, when all went well at once.

Before I reached home, after quite four months, the nurse was gone and I had to look into the host of artificial nipples and feeding; nothing seemed to nourish the babe, it having been starved so long at the start that the function of the stomach seemed quite lost or never gained. When raising my own children I had no occasion to use these substitutes, the mother having an abundance of milk.

I bought the most improved nipple on the market and a nursing-bottle, and I commenced operating upon myself in an attempt to study the philosophy of natural nursing and get at the mechanic action of the jaws and how the milk was obtained, and how much in a given number of minutes should be drawn from the bottle. I soon saw the importance of the natural method of sucking, which had never entered my observation before, and when I had completed my experimenting, the result was what I today present before you, that at once, when the babe commenced its use, a gain of flesh was perceptible and new life entered into it.

In watching the baby take the common nipple, I found it did no sucking, but would get the long rubber nipple under his tongue and would simply squeeze the milk out without effort. I saw at once that when the milk did pass into the mouth it was in too great quantity and the four ounces were drawn too soon. The hole grew to a still larger caliber from the baby pulling it for collapse. Another difficulty in the way was to get a nipple that would not collapse and could be made thoroughly aseptic.

It was then I turned myself into a baby again and soon saw that the nipple had three defects: 1, it was too long, allowing it to get under the tongue; 2, it was certain to collapse and no milk run through, without constant watching; 3, the hole in the nipple was of too large a caliber, and when the milk did get into the mouth it was profuse, and altogether it was very worrying and perplexing to the child. It was very evident to me after six weeks of experimenting, that above all else the saliva had never been looked upon as a factor in artificial feeding.

I then made choice of a plain, small, pure rubber nipple, such as I could select, but quite all of them would permit the milk to pass too rapidly and without any effort on my part, but after long search I found a few without this defect. In fact, it was not necessary to use suction at all in most, as the milk would run out and down by a simple pressure of the tongue on the rubber, and which had to be done; this would make it collapse. This was all unnatural and wrong, and I at once made a secondary nipple to be placed inside and toward the milk in the bottle, resting on a flange on the rim at the mouth of the bottle. Over this secondary nipple was drawn the rubber one, with the secondary nipple on its open end going well up into the outer nipple. To insure a given amount of milk to flow, I drilled with a steel instrument a hole of a given size that insured the amount desired, whether the hole in the outer one was small or large. This inner hole controlled the flow.

The next step was to shorten the outer nipple until it was the length of the mother's, so that it could not be gotten under the tongue. The result was, I had to exert my buccinator muscles on either side to produce a suction of air from the mouth, which perceptibly caused an influx of saliva into the mouth, which never came from the old style and arrangement in any perceptible quantity. With this short nipple and the internal secondary one, which prevented the possibility of any collapse under the most violent suction, the milk could not pass without a hard suction of the muscles, being controlled by the exact size of the hole in the secondary nipple and the short one on the outside. By this combination of two nipples, and the size being about the same as the mother's, I was enabled to control the flow of milk passing into the mouth and forcing the babe to muscular activity of its jaws to draw in from this muscular action the saliva in such quantity that it was mixed proportionately with the milk. Twenty minutes was the time that was taken to suck four ounces of milk. By this it will be seen that a babe has from birth more power in the muscles of the jaws employed in nursing than possessed in any other part of the body, and that this is the case from the very first effort to suck. It is not hereditary, but a specially born power in any child. You will further understand that nature will not permit any animal that has to suck for its sustenance to live unless it makes an effort forcibly to gain the the milk. This provision of nature is wonderful and beneficent, and the saliva could not be gained unless the jaws, with the broad buccinator muscles, could be used to press, by the sucking principle, the saliva from the parotid glands.

I think on close examination and inspection, it will be found that the submaxillary and sublingual glands take no part in the digestion of the milk, but are merely for lubricating the tongue and adjacent jaws and superior vault, and that their chemic constituents play no rôle in health. The parotids on both sides in the infant act simultaneously; but it is not true in adult life, as mastication can take place but on one side at a time; without the bolus of food in the adult coming between the cheek and teeth the parotid glands would not act from the muscles alone. On the other hand, in the baby both the buccinator muscles are drawn in forcibly against the gum of the infant and the same effect is produced as in the adult when sucking an orange or sweetness from a lump of candy applied to the lips.

The question has been raised by several medical men, whether babies at birth or when they are placed at the breast have any saliva? I have referred such, not to books as authority, but to the bibs and nurses of the infants. It is well not to theorize too much upon some questions. For me, I do not care in the case before me whether there is little or much or none. I am aware of the natural process of a babe's nursing and when I have imitated it as perfectly as I have, the results show what an artificial nipple will do when properly and scientifically arranged, and this I have seen in so many cases. (Nature demands force in order to live, even from an infant just born.)

I have here an exact daily record of seven months kept by the mother, showing the gain and loss under the use of this nipple. At first, I would not allow the milk to be too rich until the stomach could digest it, nor would I allow too much at any one time. Finally, fifteen ounces were gained in a week and never more than sixteen a week. When teething, scarcely four ounces were gained, as the nervous reflex action was a hindrance, and as soon as I had cut the gums and relieved the tension on the sac holding down the tooth, all went well. To merely cut the

gum is not enough. Then, whether saliva or none at this early age be supplied, I know that by giving that child something to do, something for its jaws to act on, something that compelled it to labor for its hourly food ! but carried out that injunction that in "the sweat of thy brow thou shalt earn thy bread," and it was manifest on its brow in the perspiration from the labor in drawing the milk from the bottle. In this special case and in many others lives have been saved, for all hope had been abandoned until these nipples were used.

While on the case, I must speak of modified milk as its only food for nine months, which was changed from time to time to suit the babe, which acted all the time most charmingly, and with pure spring water as a drink from a similar nipple, nothing of artificial foods has entered its stomach since it came into my charge. It will be asked if it would not be well to chemically test the saliva? I say no! since my experience in operations in the mouth for forty-three years in adults would not let me do so to infants, as their saliva is about as pure as could be secreted. But of the adult's saliva I shall have much to say in a future article; how it is most powerfully affected both chemically and physically, and its diagnostic value as a factor in determining much that is wrong in the system. It is wonderful to note the many changes of saliva and how medicaments affect its odor and consistency. I pay much heed to the saliva in every case and the power it has over the hardest enamel of teeth, whether alkaline or acid, or laden with a profuse quantity of mucus, making it possible to spin it out like a thread of a foot in length.

As soon as time will permit I will report upon this subject of infant as well as adult salivary secretion, for no one could have been more impressed with its importance for health and, in connection with certain articles of diet and the proper use of the teeth in masticating food. I shall also speak of the injurious use of water and drinks of various kinds when food is being masticated in the mouth, and the necessity that the saliva should be kept carefully healthy when it is the only fluid used in masticating food.

The matter is of the greatest importance to health at all periods of life, and no secretion of the body can compare in value to the products of the parotid glands. With this skirmish over a most interesting subject I leave the matter, knowing that general investigation and observation will result in invaluable aid to infants who have, heretofore, had to go down to their death, and who now can without any doubt have the proper care and sustenance.

While the apparatus I have contrived is very simple, it is well worth the careful scrutiny of every lover of *the innocent babe.*

Gelatin Casts.—O. Vulpius of Heidelberg has a much admired collection of gelatin casts, which keep perfectly well in a dry place without shriveling, melting or growing musty. A plaster negative is taken of the part of surface desired, all grease removed, thoroughly dried and filled with the following mixture dissolved in the water-bath and partially cooled: colorless gelatin 250 gm., water 240 gm., glycerin 500 gm. To obtain a flesh tint rub up fresh together one part cinnabar, five parts zinc oxid and ten parts glycerin, and add six or eight grams to the gelatin. If the cast is to be very large it can be made with a thin layer of gelatin, and strengthened at the back with plaster when cold. The casts cool in twenty-four hours.—*Cbl. f. Chir.*, February 5.

GOUT OR RHEUMATISM.

A REVIEW OF TREATMENT IN RELATION TO THE NORMAL, THE SENILE, THE ATROPHIC, AND THE NEURASTHENIC HEART.

BY J. J. CALDWELL, M.D., F.S.Sc., (London, Eng.)
BALTIMORE, MD.

Gout[1] is the name given to all those modifications of our metabolism caused by the gouty diathesis, as well as to all the symptoms to which those modifications give rise. Naturally, after middle life, gout affects every organ of the body both in its structure and its function. In a state of civilization we are all, after puberty, more or less gouty, and we are gouty in a gradually increasing ratio. All the various symptoms connected with the senile heart may be looked upon as indicating cardiac failure with sequential complications, and the treatment must therefore be tonic, with certain modifications. The drugs useful as cardiac tonics are but few in number, but of great value.

Digitalis is the foremost of all cardiac tonics; it gives its name to a whole group of remedies with similar actions, only one of which comes within a measurable distance of itself in the possession of valuable and reliable properties. An indigenous drug of the highest value, and known for more than a hundred years as a reliable remedy in dropsies, its action was so little understood, even so recently as twenty years ago, that it was called the opium of the heart, and was looked upon as a most powerful and dangerous sedative, and even yet the profession are more or less hampered in its use by an idea that digitalis is dangerously cumulative. Digitalis, like "Fitz-James' blade," is both sword and shield, and he who understands its use will never be disappointed by it, the very so-called cumulative action being the necessary result of one of its most valuable properties when overdone.

Given in full doses at short intervals, digitalis, like many other drugs, is not wholly eliminated during the interval, but each succeeding dose reinforces those that have preceded till a dangerous degree of cardiac contraction does not seem to be dangerous if wittingly produced and carefully watched. It takes a good deal of digitalis to bring a human heart to a standstill in systole. Half-ounce doses of the tincture of digitalis used to be given safely and repeatedly in the treatment of delirium tremens. I have often given dram doses of the tincture every hour for four or five hours, in the precritical collapse of pneumonia, and many years ago, in treating the dilated heart of a young chlorotic girl, I kept her pulse for days at 40, and her heart-sounds beating with the empty tic-tac of an infant's heart (embryocardia). In this case all my endeavors failed to contract and cure this dilated heart, which always relaxed the moment the dose of digitalis was reduced, apparently from sheer want of tone in the muscles. Persistent treatment failed to contract the heart, yet sufficed to feed it. It has kept well fed all these years, and, though a loud systolic murmur still indicates the continuance of dilatation, the patient has long been a happy wife and is the mother of several healthy children, with no appearance of any ailment about her.

What we were perforce reduced to in this case is all we should ever attempt in the case of senile hearts. We need never attempt to contract and cure a senile

[1] Balfour's Senile Heart.

dilated heart; it can not be done, so there is no use trying. But we always can improve the nutrition of the dilated myocardium, and in doing so we gain two ends—we fit the muscle for the more perfect discharge of its functions, and we enable it to better withstand injurious influences, reflex or other. With this object in view, we employ only moderate doses of digitalis, doses which never seem to have any cumulative action, or so rarely and slightly that we may safely continue them for a week or two without observation and without risk. These doses are from the British pharmacopeia preparations: The infusion—half a measured fluidounce; the tincture—ten minims. Each of these doses is equivalent to a little more than one grain of the powdered leaves, so that this may be taken as the medium dose that may be safely administered every twelve hours without risk of cumulative action. This means that within that space of time the quantity of the drug ingested has been completely balanced by that excreted, only the tonic influence remaining, that is, the improved nutrition of the myocardium, due to the action of the drug while being slowly excreted. I have known such doses to be continued for many months, sometimes years. The dose of digitalis is not, however, an absolute one, but is relative to the bulk (weight) of the individual, and especially to the amount of his blood, a weakly anemic individual tolerating a very much smaller dose than one more plethoric. Now and then we come across an idiosyncrasy which either tolerates freely a larger dose or resents any but the smallest; such cases are, however, rare. Still, in view of their occasional occurrence, it is well that a patient under treatment for the first time should be seen now and then for the first week or two; afterward when the measure of toleration, as we may term it, has been ascertained, this may be less necessary.

The object we have in view when using digitalis in case of senile heart is not to remove dropsy, to slow the rate of pulsation, or to contract the cardiac cavities, but by the gradual accumulation of trifling advantages, to tone up and strengthen the cardiac muscle by improving its nutrition. Gradually the heart acts with more vigor, the circulation improves in steadiness and force, the edema occupying the tissue spaces is removed, and thus the blood-pressure is lowered and a considerable strain taken from the heart. For this purpose only moderate doses are required, doses which can be continued for many months without any risk of dangerous accumulation, and yet which have a decided effect in strengthening the heart, improving the tone and elasticity of its muscle, and accumulating energy in its ganglia. Naturally this process is a slow one, and the benefit is not, for a time, very obvious to the recipient. Some years ago a friend called on me and said: "Doctor, your medicine is doing me no good." "Of that," I said, "you must allow me to be the best judge." "But I feel no change in my symptoms, nor any action whatever from what you have given me." "I had expected nothing else; you are too impatient," I replied, "and were I to give you medicine in such a dose as to produce a sensible action in a few days, before long its action would be so unpleasant that you would either stop it yourself, or your ordinary medical attendant would order you to give it up. In a short time the seeming benefit would vanish, and you would abuse me for having given you medicine which did not agree with you, and which gave you no permanent relief. Now, what I have given you will not speedily relieve you, but give it time, and it will make you well and prolong your days in comfort. Two or three months after this you will say to your wife some morning, 'Do you know my heart is not so troublesome as it was; I begin to think I am improving;' and six or eight months after this you will come to me and say, 'Doctor, I was preaching last Sunday, and feel none the worse for it.'" And so it fell; my friend and his senile heart are nowadays, after the lapse of five years, still very good company to each other, which for many days they were not.

The senile heart owes its peculiar symptoms and progress to the difficulty which a weakened myocardium finds in maintaining the circulation in the face of the permanent obstacle presented by rigidity of the arterial walls. To seek to excite a heart to more powerful action, in the face of such an obstacle, seems fraught with danger, and we know that even moderate digitalis stimulation in such circumstances is apt to be followed by an increase of the symptoms, sometimes by an increase of the cardiac dilatation, and always of its erethism. Some also object to the use of digitalis when the arteries are atheromatous, from a dread of rupturing their brittle coats. This last-named danger must be a very infinitesimal one, as such an accident is quite unknown to me, notwithstanding a continual and free use of digitalis. But, indeed, the same means of necessity taken to prevent the increase of cardiac erethism would also prevent this more serious danger. To this end it is needful in all such cases to combine the digitalis with some drug capable of unlocking the arterioles, such as iodid of potassium, the nitrates of which—nitrous ether, nitrite of sodium and nitroglycerin—are those most commonly used.

Digitalis should never be prescribed in a case of senile heart without the addition of one or more of these vascular stimulants; iodid of potassium is the most useful, acting well and persistently in a moderate dose, and being free from any objectionable effect. If, at the commencement of the treatment, the heart has been much neglected, the dilatation considerable, and the irregularity great, it is very desirable to begin with larger doses of digitalis than those just recommended so as to gain control over the rate and rhythm of the heart as rapidly as possible; but these large doses are not likely to be required for any length of time, and ought to be intermitted for at least a couple of days before the patient is put upon the smaller doses for a continuance. Where there is edema of the lower limbs, a perfectly dry diet with tonic doses of digitalis are quite often sufficient to remove the fluid, and that in a very short time; but if the dropsy is at all considerable, it must be treated as an ordinary case of cardiac dropsy, and in such cases it is a great saving of time to drain the limbs. In all senile hearts, whatever their character or special symptoms may be, we must always remember that digitalis uncombined with one or the other of the vascular stimulants is never so beneficial as when it is so combined; otherwise it is certain to produce discomfort and likely to do serious damage. The only other member of the digitalis group which has any pretensions to rival digitalis itself is strophanthus and its active principle—strophanthin. Strophanthus is, however, so much more uncertain in its action, especially as to its feeding or tonic properties, than the leading member of its group, that I have never felt

inclined to displace our own pre-eminent and indigenous drug in its favor.

Strophanthin, however, possesses two advantages over digitalis—it is readily soluble in water, and it seems to act with great rapidity. There are, therefore, conditions in which strophanthin is to be preferred, but these are unusual and exceptional at all times, and are rarely found in connection with the senile heart. Nux vomica is an excellent tonic for the senile heart and its concomitants, but, as its usefulness depends upon its active principle, it is more advantageous, and contributes to greater accuracy of dosage to employ liquor strychnin—hydrochlorate, or preferably nitrate—rather than any of the other crude preparations. The maximum benefit is only to be had from any other drug by using the maximum dose for a sufficient length of time, and to do this safely with any remedy, but, especially with so powerful a drug as strychnin, it is needful to be both accurate in the doses and regular in the times of administration. Strychnin is cumulative in its action, but by strict adherence to the rules laid down, it may be used continuously and safely for many years. I have known five minims of liquor strychnin—1/26 grain of strychnin—to be taken twice a day for over ten years, with the best results. At the end of that time symptoms of saturation began to appear, and the strychnin had to be discontinued, as it was no longer required, the puny, delicate, middle-aged woman being now both strong and healthy. It is only rarely that a larger dose than five minims of liquor strychnin can be given daily with benefit. Three such doses, fifteen minims, instead of ten, in the day are generally followed by symptoms of poisoning in no long time.

Idiosyncrasy occasionally turns up, and for the larger number of mankind may be for any length of time. In anemic patients there is often intolerance of strychnin, and if employed at all it has to be given in almost infinitesimal doses. Strychnin acts in two ways—it is an admirable tonic for the stomach, especially in those catarrhal conditions accompanied with venous congestion so commonly present when the circulation is feeble. In this way the digestion is improved and the blood enriched, so that the body generally, and the heart in particular, gets better nourishment. Strychnin has also a specially stimulating effect on the nervous system generally; consequently it is stimulating and renders more excitable the vasomotor center and the cardiac ganglia, probably energizing the primordial powers of spontaneous movement possessed by the cardiac muscular fiber, *vis in situ*, the once diffuse nervous force. In virtue of this action on the heart and nerve-centers, strychnin increases the cardiac force, revises the intra-arterial blood-pressure, and is, next to digitalis, the most elegant tonic we possess for all feeble and dilated hearts. In the less serious class of cases it is sufficient of itself to give tone both to the heart and the system generally, while in the most serious cases it is the most useful adjunct to digitalis.

Arsenic or arsenious acid (1/50 grain) is another of our most valuable tonics. It is advantageously employed in many forms of disease, and it is quite indispensable in the treatment of the senile heart. It is useful in the congestive conditions of the stomach which accompany cardiac failure, and its effect in angina is sometimes almost magical, the suffering disappearing like a dream, quite apart from any influence exerted on the cardiac failure, upon which that suffering seemed to depend. Masselot and Trousseau have both remarked upon the increased capacity for exercise that follows the administration of arsenic, and this doubtless depends upon the same general tonic influence affecting the lungs, heart and blood, that makes breathlessness a thing unknown to the Styrian mountaineer, and restores the bloom in the aged, and freshness of youth to old and seemingly worn-out horses. The Styrians are accustomed to take large doses—as much sometimes as five grains—of pure arsenious acid in the day, but such dangerous doses are by no means necessary to obtain the tonic benefits of the drug. Most excellent results occasionally follow the prolonged uses of almost infinitesimal doses (1/50 grain). I well remember one old gentleman, exceedingly sensitive to the action of drugs, to whom 1/50 grain of arsenious acid was quite poisonous, but who could tolerate 1/100 grain without difficulty. After taking this minute dose daily for two or three weeks, and nothing else, for a dilated and hypertrophied heart beginning to fail, he said to me: "I don't know what benefit you expect from the treatment, but I know what I have received; I can go upstairs much easier than I used to do." Arsenic may be given alone, and in anemic and very sensitive patients, who can only tolerate a very minute dose, this is often the best way of employing it. To these, one granule of arsenious acid containing 1/50 or 1/100 grain (or a tablet triturate) may be given after food once or twice a day and for many months, with increasing benefit. More usually, it is better to combine the arsenic with digitalis or strychnin, or with both. We learn from the histories of the Styrian arsenic-eaters, that arsenic is a poison to which the system may be gradually habituated so that even large doses may be taken for many years, not only with impunity, but with positive benefit. When given, therefore, in the moderate medical dose of two or three minims of Fowler's solution, we may safely continue them twice a day for as long as we think needful without any misgiving periods, nor need we have any dread of danger in leaving off the drug after a long continuance, as was at one time alleged. A little caution may be required in commending its use, as idiosyncracy plays a marked part in relation to arsenic, but it is only rarely that we fall in with those who are extra-sensitive to its action.

When the blood is deficient in hemoglobin, iron is a necessity. It is best given along with food, and should never be combined with digitalis, as such a combination is very apt to sicken. The proto-salts of iron are to be preferred to the per-salts, as they are more easily taken up by the acids of the gastric juice, and are thus readily assimilated. As a rule, large doses are not required in cases of feeble or dilated heart. Intra-arterial blood-pressure depends upon the distension of the arterial system by the blood contained within it. This vascular turgescence in its turn depends upon the relation between the amount of blood pumped into the arteries by the heart and the outflow through arterioles. After middle life the outflow through the arterioles is hindered by obsolescence of the capillaries and by loss of arterial elasticity, and the blood-pressure is raised by the obstacles, even with the heart beating at its normal rate and force. A healthy heart has sufficient reserve force to enable it to cope successfully with the demands for extra exertion thus made upon its powers, and it thrives upon its exertions; but when the heart is from any

cause feeble and ill-fed, it fails to respond, and it suffers. Its sufferings give rise to those varied symptoms comprised under the term "senile heart."

As these sufferings are caused and maintained by the high blood-pressure, whatever lowers this always gives relief; hence these sufferings are capable of being relieved by various modes of treatment, not all of them being truly remedial. To permanently remove these sufferings, we must not content ourselves with merely reducing the blood-pressure, but we must also strengthen the heart so as to enable it to cope with a blood-pressure always above the normal of adolescence, and which is liable to be suddenly abnormally raised by many causes. Cardiac tonics are therefore required, but all cardiac tonics, except, perhaps, arsenic, are also cardiac stimulants, as they increase the elasticity and contractility of the heart, and in certain conditions they improve the heart's metabolism by enabling it to feed itself with a larger blood-wave at a higher pressure. When the heart is feeble, however, this is just what can not be done. The whole trouble has arisen because the blood-pressure is already too great for the powers of the heart, and if we goad this feeble organ to further exertions, for which it is unfit, we either increase the dilatation that may be present, or induce erethistic tachycardia or irregularity. Cardiac tonics do not agree, but we can make them agree by combining a vascular stimulant with a cardiac stimulant, thereby making things work smoothly. The heart, no longer opposed by an obstacle it can not overcome, or only imperfectly, feeds itself better, and all its sufferings vanish.

Vascular stimulants are agents which dilate the peripheral vessels (arterioles), and so promote the flow of blood from the arteries into the veins and lower the intra-arterial blood-pressure.

Iodid of potassium is not perhaps generally regarded as a vascular stimulant, but in so far as it promotes the flow through the arterioles and lowers the blood-pressure it is an eminent member of that group, as has been established experimentally and duly recognized in relation to the treatment of aneurysm. It is not rapid in its action, but it is persistent, two or three grains every twelve hours being quite sufficient to enable digitalis to be given freely without any cardiac disturbance.

All the nitrites are vascular stimulants; spirits of nitrous ether or nitrite of sodium may be so employed, but their action does not last so long as that of the iodid of potassium, while in rapidity they are far inferior to either the nitrite of amyl or nitroglycerin. Besides being a vascular stimulant with all the actions belonging to such remedies, nitrite of amyl is also an analgesic. A former patient, who suffered from intense pain accompanied by a large aortic aneurysm, from which he died, always found the analgesic action absent unless the drug was freshly prepared. When not quite fresh, his face flushed, and all the usual symptoms due to amyl were produced, but the pain was not relieved. Since then the amyl has been retailed in hermetically sealed glass capsules, apparently with the effect of retaining the analgesic properties. The flush of the face and the fulness of the head and rapid action of the heart produced by the amyl are disagreeable to some patients, but as they do not seem to be in any way injurious, I have known amyl to be used with great freedom in angina. One medical friend, who suffered much from angina, connected with aortic regurgitation, not content with inhaling it frequently during the day, used to soak his pocket handkerchief in the amyl, and go to sleep with it lying on his face, without any ill results. The action of the amyl is very evanescent, the smell is disagreeable, and the quantity in a single capsule is rather small, but that is a matter easily remedied. Nitroglycerin, or trinitrin, is said to be a nitrite of glyceril, but its action is that of a nitrite in ordinary medical doses of 1/50 to 1/100 grain.

The importance and advantage of paying attention to the diet and feeding of bronchitic and asthmatic patients[3] has been impressed upon me from more than one point of view, and in these few remarks I wish to offer some suggestions that may prove useful. I have often noticed that when a patient, who has been long ill with chronic bronchitis and emphysema of the lungs, dies suddenly, it has almost always been soon after partaking of a full meal. I have met with instances among hospital out-patients where a man, after a heavy day's work in cold, foggy weather, has come home to a hearty tea or supper, and afterward has been taken with breathlessness, quickly followed by cardiac failure and death by his own fireside. On the other hand, I have come across elderly patients, greatly afflicted with asthma and chronic bronchitis, who, either in obedience to the doctor's orders, or from some instinct of their own, have modified and cut down their diet, with such relief to their breathing powers as has been most remarkable.

That stimulants are invaluable in cases of acute heart failure few will deny, but the regular administration of alcohol night after night, often in potency, is pretty sure to cause congestion of the liver and overfulness of the right auricle, conditions powerfully conducive to heart palpitation and breathlessness. Many farinaceous foods, wholesome enough in themselves, are often taken in such large quantity and in such injudicious combination that they set up flatulent fermentation in the stomach and cause distressing acidity and heartburn. This is especially the case with elderly people who have slow digestion. The distended stomach rises up against the heart, impeding, and sometimes permanently stopping, the action of this organ. The patient will declare that all he takes is most wholesome. Breakfast perhaps consists of a great soup-plate full of porridge, followed by eggs and mutton chops. The last meal of the day is made up of some bulky farinaceous food with roasted apples and sometimes lemonade, sometimes a glass or two of claret as a drink.

In the treatment of such a case the doctor has his opportunity. He will look at his patient's tongue and will find it large, swollen, and indented by the teeth; it is more or less furred and the breath is sour. The urine is often copious, clear, and frequently passed. There probably is never any gastric pain or tenderness, the stomach being in a dull and torpid condition, yet constantly craving for food. Good may here be done by banishing the plate of porridge from the breakfast table, and allowing one egg with a thin slice or two of bacon, and rusks or dry toast in place of bread. As a change, fish, fresh or salted, suits well, and salt herrings are reckoned good for the throat. At the midday meal roast meat is proper, with such vegetables as are found to agree. Light puddings, in

[2] Solution of Iron-Manganese (Gude).

[3] Thorowgood, London Hospital for Diseases of the Chest; Medical Press and Circular, Dec. 16, 1896.

moderate quantity, are allowable, and often a glass or two of sherry appears to aid the digestion.

The most important part of this dietetic treatment consists in the arrangement of the evening meal. This should be taken not later than 8 P.M., and must be light, digestible and nutritious. Soups as a rule do not agree, especially when the heart is feeble. Chicken or game seems to suit most people. Ham and tongue in thin slices also agree well. Beef, and even mutton, late in the day, are often too much for some stomachs.

Dr. W. H. Thomson believes that the treatment must be determined chiefly by the consideration whether the affection be primary or secondary in its causation. In the treatment of primary affections the first indication is the prophylaxis of rheumatism. Particular attention should be paid to the tonsils, and prompt use of the salicylates internally should be made at the first signs of tonsillitis, together with local applications of tincture of iodin. The habitual employment of hot-water douches, with oil of peppermint, to the throat is an excellent measure. Rheumatic patients should always protect the skin with flannel, both by day and by night. Rest in bed is of great importance in the primary affections. When the symptoms are rather aggravated by digitalis, strychnin, and similar drugs, aconite will often lessen the dyspnea, relieve the anginose attacks, and make the pulse fuller and steadier. In dyspnea, the result of pericarditis, firm strapping of the right side of the chest is of undoubted service. For the dyspnea of mitral stenosis, especially when it occurs in paroxysms, belladonna in combination with compound spirits of ether is much the best remedy. In mitral stenotic cases, digitalis is often inferior to strophanthus, spartein, or caffein. Anemia should always be considered, but the administration of iron is mischievous in rheumatism. In this disease the best remedies are cod-liver oil with small doses of arsenic; or calcium sulphid in from one-half to one-grain doses four times daily apparently hastens the convalescence from acute rheumatism. In secondary disease of the heart one should consider the whole extent of the circulation. The remedial agents may be divided into the constitutional and symptomatic. Of the first class, and the most important and continuous in its operation, is fresh air. Iron is the most effective among drugs, because it is our respiratory food, and has no other function in the body but as the carrier of oxygen. Next to continuous breathing in the open air is properly applied massage, especially that form in which the patient exerts a carefully regulated resistance to the flexion and extension of his muscles by the operator.

Acute alcoholic dilatation of the heart is a most definite, important, and striking affection. Two very instructive non-fatal cases were described by Dr. Maguire in "The Transactions of the Clinical Society," London, Vol. xxii, 1887.

The following fatal case,[4] which came under my notice a few weeks ago, illustrates the disease in a very striking manner:

A man, aged 30 years, by occupation a fitter, was admitted into the General Hospital, Nottingham, Oct. 26, 1896. He had slight general edema, great swelling of the legs, a distended abdomen, and such a pale, pasty face as to strongly suggest chronic nephritis, which had been the provisional diagnosis made in the out-patient room by the house physician before any urine could be obtained for examination.

On admission he was drowsy, and evidently very ill; but his statement was clear that he had never had rheumatic fever, or any previous serious illness, and had been quite well until he had got out of work eight weeks before. The urine was tested when I saw him—an hour or two after admission—and was found to be scanty, sp. gr. 1022, and perfectly free from albumin. He complained of failing sight; and on ophthalmoscopic examination the discs were a little hazy, and the fundus very pale—possibly there was very slight edema of the retina. It was afterward ascertained from his mother that he had been drinking spirits very excessively for a month, and taking scarcely any food. The pulse was rapid, 100 to 120 per minute, of very low tension, and exceedingly feeble. The area of cardiac dulness was increased, but no cardiac impulse could be defined. There was no murmur, and the sounds were very weak. Although in some forms of chronic Bright's disease the urine may be found free from albumin, sometimes for long periods, the above complex of physical signs was incompatible with nephritis, acute or chronic. The diagnosis was cardiac dilatation and feebleness. The patient somewhat suddenly became cyanosed at 6 A.M. the following morning, and died at 10 A.M.

Necropsy, seven hours postmortem: Tissues edematous; a little fluid in the peritoneum and pleura; three ounces in the pericardium. The right auricle was considerably dilated and the walls thickened; the right ventricle was much dilated and the walls considerably thickened; they were soft in texture, and there appeared to de some fatty degeneration of the muscular substance. The left auricle was rather less dilated than the right, and the left ventricle more dilated than the right.

All the cavities were distended with soft, recent, black clot; and all the valves were healthy. The coronary arteries appeared normal; the aorta was small, and just spotted with commencing atheroma. The weight of the heart, opened and well washed, was $14\frac{3}{4}$ ounces; the man was very slightly built, height about 5 feet 2 inches. The kidneys were quite healthy to the naked eye; the capsules stripped easily, the cortex was in normal proportion; they weighed together seven ounces. The liver was rather pale and fatty.

The only marked pathologic condition, therefore, was a decided dilatation and enlargement of the heart.

The above may be recapitulated *ad libitum*, for their names are legion in the practice of every busy physician.

In conclusion, I will say that I have many cases of heart trouble illustrating the benefit and variety of the above-named treatments, which will appear in my second paper of clinical reports on "The Treatment and Therapeutics of Gout or Rheumatism and Inebriety in Relation to the Heart."

[4] Medical Press and Circular, London, England, March 24, 1897.

METALLIC MERCURY.

ITS USE IN THE FORM OF UNGUENTUM HYDRARGYRI OR BLUE OINTMENT ADMINISTERED BY THE MOUTH.

Read before the Mississippi Valley Medical Association, at Nashville, Tenn., Oct. 11-14, 1898.

BY ALBERT BERNHEIM, A.M., M.D.

PHILADELPHIA, PA.

The purpose of this paper is not to speak on the value of blue ointment for itself, in the treatment of syphilis; there is no doubt about its great and quick efficacy, quite especially where an immediate result is desired. In general, blue ointment was always used by the method of inunction, but very often this method of administration is disliked by the patient, on account of its nastiness and inconvenience. If we can substitute another method of using it, with the same good results, I think it would be of no small advantage.

It was Dr. Anuschat, a German physician, who, in 1896, recommended the internal administration of blue ointment. He started from the view that, as is well recognized at the present time, the efficacy of the inunction of blue ointment depends upon the evaporation of the metallic mercury. I am very well aware that not all the investigators agree in regard to the manner of action of blue ointment. On the one side, the authors say that the globules of the metallic mer-

cury are acted upon by the secretion of the glands of the skin, and are converted into a soluble preparation that is taken up by the lymph and blood, and at the same time they will not admit that mercury acts by evaporation, while others admit the evaporation, but do not think it is of decided value. On the other side, many believe in the action of metallic mercury by evaporation. It is very difficult to come to an absolute certainty in this respect.

We have reports of cases in which people who lived in the same room with patients who used blue ointment by the method of inunction, were affected by salivation; thus, this would show that the mercury evaporated from the skin of the patients. Very often we found that the inunction of blue ointment had not much effect upon syphilitic patients. When we analyzed these cases more exactly, we found that these patients, from too great a sentiment of cleanliness, washed the ointment off as soon as it was rubbed in; doing so, they did away with every chance of evaporation, and the cure did not exhibit the good effects which other patients showed who did not wash it off Many doctors, therefore, make it a point not to allow syphilitic patients to take a bath more than once a week. If you make an experiment, by covering the anointed parts of the body by means of an impermeable cloth, you will also not have the good effects of mercury. That mercury, by evaporation, might do much harm you all know, from the experiences of the workingmen in looking-glass factories, and also that this harm is only prevented by keeping the mouth and teeth clean.

Dr. Anuschat shows that mercury, if completely extinguished by means of a fat and administered by the mouth, will be divided so minutely through the power of emulsion of the bile that, being reabsorbed by the gut, and after having reached the circulating blood, it manifests its efficacy in the shape of vapor. He shows furthermore that the chief essential is that a sufficient quantity of fat is introduced into the bowels to secure an efficient emulsion. The German Pharmacopeia, in the manufacturing of blue ointment, no longer uses lard, but lanolin, and I think it is a very great improvement. Lanolin is certainly one of the best constituents for any ointment. Dr. Anuschat[1] gives, in general, a pill mass of pure metallic mercury, 75 grains; lanolin, 150 grains; and to have it triturated as perfectly and exactly as possible, adds some Althææ radix and makes one hundred pills. Each pill contains three-quarters of a grain of mercury, which corresponds to a cutaneous inunction of about 45 grains of blue ointment. He gives one pill twice a day; in severe cases he increased the dose to two pills two or three times a day. He makes it a point to give simultaneously much fat and alcohol, particularly the former.

Another German physician, Dr. L. Silberstein,[2] followed this advice, by prescribing the mass in the following formula:

Unguenti lanolini; hydrargyri cinerei	67.5 grains.
Licorice powder	75 grains.
Glycerin	5 drops.
Mucilage enough to make a mass for 60 pills.	

S. Two pills twice a day.

Each pill of this contains three-eighths of a grain of mercury, two pills being equal to three-quarters of a grain, equal to that of Dr. Anuschat. Dr. Silberstein reports fifty cases treated by this method, and is very much pleased with it.

The unpleasant effects that might be occasioned by any mercury treatment are surely not greater and more common; on the contrary, they are rather smaller and rarer by this method. As a matter of course, the mouth and teeth have to be cleaned thoroughly, especially has the patient to use the tooth-brush after each meal. Dr. Silberstein has seen such good results that he had hardly any occasion to give a gargling water. Colics or dysentery that may follow mercury are prevented by taking care that the patient has a regular action of the bowels every day. If necessary, give a tablespoonful of castor-oil, which usually removes any trouble of this kind, possibly by improving the emulsion. It may not be time to proclaim this method of treatment as *the* treatment, and I can only add three cases in which I used the administration of blue ointment by the mouth. But even these three cases would induce me, if occasion allows, to treat syphilis in this manner again.

Case 1.—A man, 32 years of age, was infected several years ago; had ulcers on his tongue and tonsils, exanthema on forehead, psoriasis plantæ manus. Ordered one pill twice a day. All symptoms have disappeared after a lapse of five weeks.[1]

Case 2.—A woman had an indurated ulcer on the left labium majus; ulcers in the groins; plaques on tongue, palate and tonsils; corona veneraria; infection three months ago. Ordered two pills twice a day. Improvement was shown within three weeks; then there was an interval in the treatment; again two pills twice a day. Symptoms have completely disappeared seven weeks after the beginning of the treatment.

A third case is just now under my treatment and is improving.

NOTE.—In the time between the reading and printing of this paper I have treated two other cases, one, a woman having ulcers of the skin on different parts of the body, especially on knee and tibia. The other case was in a child afflicted by congenital lues. The two cases yielded readily. All the symptoms have disappeared.

The blue ointment I used was the U. S. P. ointment, but of 33.3 per cent. strength. I had the pills prepared by adding licorice powder, and gave them in capsules. I found the best time for taking the capsules was an hour or more after meals. I did this, thinking that the capsules are passed very soon to the duodenum, so that they come in contact with the bile in the second or third hour after the meal, when the secretion of the duodenal juice and of the bile is at its best. In the meantime I induced Parke, Davis & Co. to make a pill according to a prescription which I thought of great advantage. This pill, samples of which I take occasion to exhibit before you, contain three-eighths of a grain of metallic mercury, three-fourths of a grain of lanolin and one grain of purified oxgall; this pill has the regular enteric coating, and is but dissolved in the duodenum in contact with an alkaline fluid and bile. As a matter of course, the more exact and minute the division of the mercury, the better is the ointment. Parke, Davis & Co. wrote me: "We observed your instructions to triturate the mercury with the lanolin until all evidence of globules of metallic mercury disappeared," and, indeed, if you bring their pills under the microscope and compare them with the common blue ointment, prepared from lard, the difference between the two will strike you at once; you will find relatively large globules of metallic mercury in the lard ointment, while you hardly, and with difficulty, will meet with any evidence of the mercury in the well-triturated lanolin ointment. I know very well that the human body is no chemic laboratory, nor the gut a test-tube, but some rough experiments I made may give a conception of the

[1] This patient said to me three months later that he never had a quicker working and more pleasant medicine to take than this pill.

advisability of having the pills dissolved elsewhere than in the stomach. Many drugs, among them mercury, have better effect if not dissolved in the stomach, but after having passed it, and that especially if given in fatty substances; and in particular in this enteric pill it "does not knock the stomach out," according to the wording of one of my patients, as he found that the red iodid of mercury does. I made some experiments upon the solution and emulsion of this mecurial pill:

1. In a liquid similar to the gastric juice—water with hydrochloric acid and pepsin. The pill is not dissolved, and even without the coating, blue ointment is not changed by it.

2. In a liquid similar to the alkaline juice of the duodenum—water with pancreatin. It readily dissolves the coating and changes the pill.

3. In another liquid containing oxgall alone. The pill is dissolved.

4. In another liquid containing oxgall and pancreatin. The pill is also dissolved.

5. I made an experiment introducing a fatty acid into the liquid and that in the shape of a chocolate—the Hauswaldt Vigor Chocolate.

6. I also made an experiment with cod-liver oil.

These last two experiments show the best and most thorough emulsions.

As Dr. Anuschat already made it a point to give simultaneously fatty substances, I believe it would be a good thing to give cod-liver oil; but we all know how little the patients like it; a much better and much more pleasant substitute is to be found in the Hauswaldt Vigor chocolate.[3] Two members of this Mississippi Valley Medical Association, Dr. Thomas Hunt Stucky[4] of Louisville, and Dr. I. N. Love[5] of St. Louis, recommended the chocolate. I have prescribed Vigor chocolate in many cases of adults as well as children. If you eat some of the common chocolate you get tired of it very soon, and so does your alimentary tract. This is not by any means the case with this special preparation of Vigor chocolate. It is prepared by the addition of fatty acid to the cocoa. I have had patients who ate this chocolate for weeks and weeks, and that in a dose quite impossible with other preparations. Even children are enabled to eat as much as half a pound of it daily.

In cases of syphilis, where we intend to give blue ointment by the mouth, this chocolate might serve a double purpose: 1, it helps the emulsion of the blue ointment better than anything else, and thus the mercury will have a greater effect.

The time has passed when physicians thought and taught that the best method of killing the syphilitic infection is the starving of the unfortunate patient. At the present time the physicians make it their duty to keep up the strength of the patients in any case, and not the least in the individual afflicted by lues. In no country of the world, I believe, do people wish to get not only a good medicine, but what they regard even as higher—a pretty and pleasant medicine—more than in this country. If we can furnish it without interfering with the good effects of the remedy, why should we not do it? These pills—some of them I took myself for the experiment's sake—do not disturb the stomach or the bowels, and the chocolate is as good as, and I really believe even better than, any other kind of candy. The price of the pills as well as of the chocolate is certainly not higher than that of other remedies for that disease.

Aside from my subject proper, I would heartily advise the substitution of another fat instead of lard for the blue ointment. Lanolin is excellent for this purpose, though it might be a little more expensive. But in this country especially, we have a preparation that is exceedingly fitted for the manufacturing of blue ointment, namely, the purest American vaselin. Some years ago I used a blue ointment prepared with vasogen,[6] that is, purest vaselin impregnated with oxygen. It is very easily absorbable, can be rubbed into the skin in half the common dose and in half the time necessary for the same dose of common blue ointment. I have had no occasion to administer this vasogen preparation by the mouth, but I would do it if I could secure it.

The purpose of my paper was to induce you to try this method of treating lues, and I hope you, as well as the patient, will be pleased with it, for this method is that which we demand of a treatment: such as ought to cure *jucunde, cito et tute*—pleasantly, quickly and safely.

LITERATURE.

1 Deutsche Med. Zeitung, 1896, Nos. 74 and 75.
2 Therapeutische Monatshefte, 1898, p. 378.
3 Ibid, 1896, p. 345.
4 Extract from Clinical Lecture on Anemia, delivered at the Louisville City Hospital.
5 Stenographic notes from the meeting of the Mississippi Valley Med. Associtaion, Detroit, Sept. 3-6, 1895.
6 Therapeutische Monatshefte, 1896, p. 79.

1940 North Sixth Street.

Society Proceedings.

California Academy of Medicine.

Meeting of Feb. 28, 1899.

Dr. D. W. MONTGOMERY discussed and exhibited to the meeting

A CASE OF SYPHILIS

of a child about a year old, presented at his clinic some months ago, for a rash that had appeared on the buttocks. The rash was somewhat suspicious in its general aspect, but no history of syphilis could be elicited. He did not again see the child until about two weeks ago, when she presented a lesion of the tongue, a collection of condylomata, the patches being about one-quarter of an inch across, raised and of a whitish color, with sunken centers. They do not have the same typic appearance now that they did two weeks ago, but they are still very evident. The groups are about in the center of the dorsum of the tongue. At the corner of the mouth is a squamous, red, circinate lesion. The nose is somewhat sunken, and the child has had "snuffles," more or less badly for some time past. Aside from these lesions and symptoms, there is nothing to be noted; the nutrition is good and the child is well nourished. There are no disturbances of the bones, ears or eyes. The picture seems a typic one of inherited syphilis, yet but little history can be obtained. The mother is and has been perfectly well. She has been married for two years, this being her first child. The husband is perfectly well, as is also her mother, who lives with her and has handled the infant a great deal. The woman states that when she was 15 years old she took care of a woman who had some blood disease which she had been warned against, by a third woman who attended the sick one. She thinks she contracted the disease from this patient, for at that time she had bad sore throat and some sores, one of which has left a scar on the forehead. The Doctor did not make the diagnosis of syphilis until the condylomata appeared.

Drs. WM WATT KERR and HERBERT MOFFITT presented a case of

TYPHOID MENINGITIS.

The patient, a waiter, 28 years old, entered the City and County Hospital on Sept. 29, 1898. He was in a very stupid condition at that time, and his statements were somewhat contradictory. The history elicited, as well as possible under the circumstances, is as follows: The father died of some lung

trouble; patient had always been well, except slight pertussis; he indulged moderately in tobacco and alcoholics. His present illness dated back about three or four weeks. At that time he was taken sick rather suddenly, with general weakness, fever, anorexia, headache and pain in the right iliac region; no cough or nosebleed; does not remember whether there had been diarrhea or vomiting. He entered the hospital on account of the pain in the right iliac region, general weakness and headache. On examination he was found to be very pale, much emaciated and had a dull, heavy look. Somewhat demented, he answered slowly and articulated poorly; there was no real aphasia. The pupils were equal and reacted normally; the eye muscles were normal; the tongue when protruded was deflected slightly to the right and was tremulous; there was no facial paralysis; the ears were not tender, and there was no discharge from them; no herpes; lungs were negative save for a few dry and moist râles. The only thing about the heart was a slight systolic murmur; otherwise negative. The abdomen was distended, tympanitic and with marked gurgling in the cecal region; there were no spots and no tenderness. The spleen seemed by percussion to be a little large. There were four or five typic pea-soup stools daily. Shortly after entrance the urine gave diazo reaction. A little albumin was present in the urine. The knee-jerks were present and equal. The pulse was markedly dicrotic. The Widal reacton was not obtained on entrance. The disease progressed in a rather unusual manner. The dulness and difficult articulation increased but there was no delirium. No pain seemed to be experienced, and there was no tenderness of the head or neck on pressure. The fever ran a most erratic course, resembling tubercular meningitis more closely than typhoid fever. The pulse was comparatively slow, ranging from 70 to 90; dicrotic. No spots appeared; the spleen remained unchanged as did also the knee-jerks; no eye symptoms made their appearance and there was no hyperesthesia. Diarrhea was persistent, and stools of the pea-soup variety. The patient emaciated very rapidly. The abdomen was not much distended but there was persistent gurgling. The Widal reaction, 1 to 40, was obtained one week before death, which occurred on October 23.

Autopsy showed a few healed ulcers in the lower ileum, with the shaven-beard appearance. They were certainly six to eight weeks old. The spleen was very slightly enlarged and very soft; the other organs were negative. The brain was everywhere covered with a thick, purulent exudate, yellow-red in color. Microscopically examined, diplococci and rod shaped round-end bacilli were found. Cultures were made, which showed mobile bacilli giving negative glucose test and clumping with typhoid serum. It was thought for a time that the case was one of tubercular meningitis. The lungs were repeatedly examined, with but negative result. The sputum was carefully examined, but no germs were found. One point of interest in this case is that the meningitis was not secondary to any middle ear trouble, as is generally the case with typhoid meningitis. Here the meningitis was a direct infection of the typhoid bacillus, and of a most unusual nature.

Dr. MOFFITT—I have been able to find but eighteen or nineteen cases of typhoid meningitis recorded. Most of these are reported by Keen in his "Surgical Complications of Typhoid Fever," and by Ohlmacher, in an article in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION (Aug. 28, 1897). Osler and others mention the complication and cite some cases. Of those I have found reported, 16 presented the typhoid bacillus on microscopic examination, and in 12 of these it was a pure typhoid infection. Wolf has gathered the data of 174 cases of typhoid meningitis, and finds that 2.87 per cent. were caused by typhoid infection alone. Thus far all the cases recognized have been fatal. Seven of the 16 cases began in the third or fourth week. The exudate may be either serous, sero-purulent, or purulent. It is usually very thick and viscid. In this case the diplococcus was also found.

Dr. E. E. KELLY—I recently saw a case of meningitis, not, however, due to typhoid infection, but which was rather peculiar and puzzling. I was called late one evening to see a young man who had had the grip for some little time, but had not been very sick. At 7 o'clock in the evening of the night in which I was called, the landlady had suggested that he send for a doctor, as he seemed to be quite ill. He refused, however, and when she again saw him, some hours later, he was delirious. I was then sent for and found him in violent convulsions, the right eye fixed, the pupils normal, but the eyes somewhat glazed. There was no ear trouble, nor had there been. He died that night, and autopsy showed a septic meningitis of the right frontal lobe. Tracing down the disease, I found infection following the path of the right ophthalmic vein. The meningitis was not diffuse, but was confined entirely to the right frontal lobe.

Dr. J. HENRY BARBAT—I have seen several cases of meningitis following grip, some of which recovered, but most of which were fatal. I remember three or four occurring in children, one case in particular, which illustrated the direct transmission of the disease. It first appeared in a perfectly healthy mother of a six-weeks-old child; the child had been previously healthy. Three days after the grip appeared in the mother, the child presented every symptom of the disease. It was sore all over, and evidently suffered when touched or moved. In a day or two it developed evidences of meningitis, which it survived, subsequently dying of the resultant hydrocephalus.

Dr. HAROLD BRUNN—I have seen two cases of meningitis in typhoid fever. In one of them the symptoms were most pronounced, but on autopsy no brain lesion was observable. In the other case there was some trifling doubt as to the exact diagnosis, though most of the symptoms of typhoid meningitis were present. The occurrence of this complication in typhoid fever is, fortunately, most rare, as the termination seems always to be a fatal one.

Dr. KERR—I have seen a number of cases of meningitis following the grip, in many of which the question of infection was not clear, owing to the possibility of cerebrospinal meningitis infection. Some cases develop meningitis very suddenly and without a previous history of grip, yet the appearance and symptoms are very like those cases in which the meningitis is preceded by an attack of grip. I had intended to speak of two or three other cases of meningitis in this connection. The first case was diagnosed as "locomotor ataxia," at the city hall, for the reason that the man staggered and reeled in his attempts to walk. When he reached the hospital he was found to have a bronchopneumonia. There was a double otorrhea. The man was in a condition of partial stupor, and died in a few days. Autopsy revealed purulent meningitis of the brain and spinal cord. In this case the real infection is doubtful; it might have been a case following grip, or the infection may have been the pneumococcus. The particular germ was not discovered.

The second case was much the same, save that in this one there was a history of strong alcoholism, an enlarged liver and every symptom of meningitis—pain and stiffness of the neck, soreness of the neck and head, etc. Autopsy showed about the same condition as the previous case. In both there was a history of grip.

The third case gave no history of grip, but is interesting for other reasons. It occurred in a woman of 23 or 24 years of age. She had been much about the camps recently abandoned by the troops centered here. As we all know, there was much cerebrospinal meningitis in these camps, and I had been watching to see if cases did not develop in persons much about the camps or the camp-grounds. This woman presented a classic case of the disease, though the outcome I do not know. I suppose she died, for she was very low when I saw her in consultation.

The fourth case developed in a young woman who had had grip two or three weeks before the onset of the disease. The meningitis may have followed the grip, or it may have been a cerebrospinal meningitis; the influenza bacillus was not isolated. The hospital record gives the following statement of her condition when examined:

Feb. 5, 1899: Eyes normal—no dilatation of the pupils; pupils respond normally to light; tongue moist, coated and white; tremor in the jaw on opening and closing the mouth; no pain when at rest, but pain present on turning or rotating the head or moving any part of the body. When the legs are moved the patient complains of pain in the neighborhood of the sacrum. There is no disturbance of speech; the abdomen is retracted. There is rigidity of both arms and legs, on passive movement, especially so in extension; particularly marked at elbow and knee-joints. There is no tenderness on pressure except over the course of the posterior tibial nerve.

A peculiar feature is the spinal pain; over the cervical and lumbar regions there is tenderness; in the dorsal region, however, this is not noted. Some loss of motor power in both arms is noted. There is no cutaneous hyperesthesia; the tendon reflexes are exaggerated on both sides, especially the right plantar. The patient entered the hospital at 4 P.M., February 5. The pulse was then 104, respiration 20, and the temperature 38.5 C. She complained of severe headache; the pulse was irregular. Urine and fecal matter, very loose in consistency, were voided involuntarily. She was given peptonized milk, 4 oz. every two hours, strontium bromid, gr. 20 every six hours, and tincture digitalis, 10 gtt. every five hours. February 6, the temperature at 9 A.M. was 37 C. It gradually rose until midnight, when it reached its highest point, 38 C. The respirations were 18 and the pulse 100, with very little variation from these figures. The pulse became regular at 9 P.M. and remained so; urinated once, voluntarily, 16 ounces. The

patient, it is noted, lies for the greater part of the time in a stupor, not speaking until forced to do so.

February 7: The temperature followed the same course as on the previous day, save that the highest point was reached at 9 P. M., and is recorded as 38.1 C.; urinated involuntarily all day long; suffered greatly from pain in the head and back.

February 8: Temperature, pulse and respirations became normal and so remained throughout the course of the disease. The patient asked for a vessel in which to urinate; complained but little of pain in the head when moved; takes milk, 6 ounces, every two hours.

February 9: Milk increased to 8 ounces every two hours; bowel movements daily; stools controlled, though sphincter somewhat relaxed.

February 10: The tenderness in the legs is much less, but there is still some pain on moving the head.

February 13: Pain gone from the legs; no pain on moving the head; no soreness of back; patient seems to be much interested in her surroundings.

February 16: All medicines discontinued. From this time on the patient has had no pain; has talked readily, and has gradually increased in strength. This case is but one of a number which I have seen or heard of, where the infection was apparently derived from the old army camps. In this case the picture was almost a perfect one of cerebrospinal meningitis, with a pretty clear indication of the place where the infection was derived.

Dr. MOFFITT—I recall two or three cases of this sort that were rather interesting. One at the hospital, presented a very large herpes of the nose, cheek and lip. On autopsy the brain and spinal cord were found to be very much involved. Diplococci were found, but no influenza or pneumococcus bacilli. When the meningitis follows grip, we may or may not find the influenza germ, for the reason that some other bacillus may have displaced it by the time we come to make our cultures. In this way a pneumococcus may displace the influenza germ, or it may be displaced by a diplococcus. I saw a boy last week whom I had examined two months ago, at which time there was nothing wrong with him save a slight double mitral murmur, probably of long standing. Last Friday he was well and went to the theater in the evening. While there he was suddenly taken sick; by the time he reached home, where he was at once removed, he was wildly delirious; twelve hours later coma supervened, which lasted for about twelve hours and was then replaced by delirium. He was absolutely deaf, and presented a picture of cerebrospinal meningitis that could not be mistaken. The calves were hyperesthetic; the neck was stiff and painful; the head was sore and tender and there was herpes. No autopsy was permitted nor was lumbar puncture allowed. Leucocytosis, 20,000. There had been no history of grip, but there had been slight bronchitis. On the day of the funeral, while at the cemetery, a younger brother became suddenly, and without any premonitory symptoms, absolutely deaf. In a few hours he became wildly delirious, showing headache, stiff neck, pain, tenderness, etc. There was nothing in the urine nor in the secretions from the nose or throat, or expectorated material; some bronchitis was present. The knees were red and tender, and in this case also a count showed 20,000 leucocytes. He had a slight nose cold for two or three days previously, but nothing that amounted to much. This is now nearly the sixth day of the disease, and he is somewhat better. I hope to be able to make lumbar puncture on this case, or, if he dies, perform an autopsy. The question of etiology in these cases is a most interesting and also a most puzzling one. Is this meningeal trouble due to an infection by the influenza bacillus, or is it a true infection by the cerebrospinal meningitis germ? These two boys were in the habit of going to the old campgrounds to play ball, about two or three times a week, which fact may have something to do with the causation. One fact would seem to indicate that the infection was not either due to influenza or bronchopneumonia, for in neither of these diseases do we find leucocytosis, so far as I am aware.

Dr. S. J. HUNKIN—I have seen a great many cases of tubercular meningitis, some of which strongly resembled meningitis from other infection. I recall one in particular, occurring in a little chap who had tubercular hip-joint trouble and had been under my observation for several years. He spent a good deal of his time, nearly all of it in fact, at the camps. One day he suddenly developed headache, stiff neck, herpes, etc. I gave him a good calomel purge, and the next day he was much better. The following day he was in convulsions; headache, stiff neck, etc., very marked, and the most exaggerated opisthotonos I have ever seen. He died on the third day, or a week from the first onset of the disease. There was no autopsy and the death certificate gave "tubercular meningitis" as the cause of death, though I have my grave doubts as to that being the case. It looked much more, to me, like a case of cerebrospinal meningitis. I have seen several cases in the Richmond district, of cerebrospinal meningitis occurring in persons who had been at or near the camps a good deal. In regard to lumbar puncture for tubercular meningitis, we have used the method quite a little at the Children's Hospital, but have seen no particular good results follow its use. It is very easy and is not at all painful; quite a lot of fluid may be at times removed. We made some measurements to determine the pressure within the canal; we found that it would support a column of fluid from 60 to 70 cm. in height. We have not yet found any tubercle bacilli in the withdrawn fluid, though we have found numbers of diplococci.

Dr. HUNTINGTON—I have heard of a number of cases of cerebrospinal meningitis which have recently occurred in the vicinity of Sacramento, but the source of the infection is, to the best of my belief, quite unknown.

Dr. KERR—I remember seeing one case that in the suddenness of the onset very much resembled the cases reported by Dr. Moffitt. The boy went across the bay, was perfectly well when he left home, and was taken sick without any warning when he reached Oakland. He was brought home immediately and, I think, died. The onset was sudden and without any premonitory symptoms of any sort.

Dr. MOFFITT—It is stated that the organisms are sometimes found in the herpes, though I have not found any there. In Dr. Hunkin's case the presence of herpes, together with the other symptoms of the case, would seem to quite contraindicate the possibility of the disease having been tuberculous meningitis.

HABITUAL ABORTION.

Dr. KREUTZMANN presented a specimen, it being a placenta recently discharged, together with its accompanying membranes, from a woman with the following history: She is 33 years old; menstruation always been right; general health good; married in 1892. Five months later she became pregnant, and in the fifth month of pregnancy, having been perfectly well up to that time, her feet and legs swelled and she had some trouble with her eyes. There was no nausea or vomiting, and but little feeling of life of the fetus, which was prematurely delivered in October, 1893. There was no fever afterward; no data could be obtained as to the nature of the placenta. Soon after the miscarriage the eyes recovered and the swelling of the feet disappeared. In August, 1894, she again conceived, but was prematurely delivered in March, 1895, the fetus coming away six weeks before full term. For two weeks before this premature delivery there had been some swelling of the feet. This premature delivery was brought about by a physician, though for what reason could not be ascertained. The fetus was alive at the time the delivery was brought about, but it died during the manipulations for delivery. She conceived again in January, 1895, aborting in July of the same year. At this time also, there was some swelling of the feet, though no eye symptoms. I first saw the patient in January, 1897. She had then some relaxation of the pelvic organs, but the general health was good. I curetted the uterus and sewed up a small tear, since which time she has been well. Three weeks ago she came to engage me to attend her in her confinement, she being then four months pregnant. She stated that she felt perfectly well and was anxious to have a child. The urine, which I have examined every few days since that time, I find contains albumin in small amount, together with casts both granular and hyaline. She was quite well for two weeks after seeing me, but had a showing of blood and sent for me at the end of that time. There was considerable pain, and in spite of all efforts the abortion continued and the ovum came away entire. The fetus was very small for the time of gestation. The placenta presents some points of interest. It exhibits a number of white infarcts and is very small. The cause commonly found to be the secret of abortion is syphilis; this woman has no syphilis nor has her husband. The next most common cause of habitual abortion is renal disease, in which affection we frequently find the white infarcts in the placenta. There can be no doubt of the connection between the renal disease, the white infarcts and the habitual abortion, though what the exact connection may be we do not know. It is not my intention to say that in all cases of renal disease we find these infarcts in the placenta and habitual abortion, for you all know that many cases of renal disease exist and do not interfere with the course of gestation. But when we find renal disease and habitual abortion, we may be confident that the renal disease is the cause of the abortions. Opinions vary as to the anatomy of these infarcts. It is believed by some that it is interstitial inflammation with ensuing cirrhosis. There are two general forms of renal affection which

seem to have this action upon the process of gestation: 1. The "kidney of pregnancy," as it has been called. Here we have to do with a large, white, edematous kidney, with fatty degeneration of the epithelium, observed generally in primiparas. It frequently is the cause of eclampsia. At the end of gestation the kidney returns to its normal condition and the patient is again quite well. Usually in these cases the renal disease does not recur with subsequent pregnancies, but in some cases it does so recur. This case is one of those in which it recurs. These are favorable cases for the mother, for after the pregnancy, the woman returns to her normal condition and all is well. 2. We have the true nephritis, the pregnancy being simply added to that condition of disease. Here the disease is aggravated by the pregnancy, and though it quiets down after the end of the gestation, the disease remains and becomes constantly worse. These are bad cases for the mother, for the disease is progressive and does not disappear with the end of pregnancy.

SKIAGRAPHIC ERRORS.

Dr. DUDLEY TAIT exhibited some skiagraphs illustrating errors which the surgeon might be permitted to fall into through the mistaken translation of the picture furnished by the X-rays. The first skiagraph was one of tubercular lesions involving the tarsal bones and ankle-joint. Here the diagnosis of tuberculosis of the bones of the foot was plain on inspection of the picture plate, but the condition of the joint and bones of the leg could not be made out. The blur noticeable in this region was attributed to the existing edema of the soft parts. Nevertheless, an amputation was performed at the middle of the leg. Examination of the specimen showed that the disease had involved not only the tarsal bones but the ankle-joint, which was filled with pus, and also both bones of the leg. The second case was one of tumor of the chest, in a boy of 14 years, seen at the French Hospital. There was a bulging mass in the right subclavicular region, though beyond this fact nothing positive could be ascertained by the ordinary methods of diagnosis. There was diminished fremitus over the greater portion of the right side anteriorly. Respiration could be heard, posteriorly, over the entire right side, and down to the third rib anteriorly, in the mammary line. The skiagraph showed a mass which appeared to be confined to the chest wall. A large flap was accordingly made, and an extensive resection of ribs begun. The removal of portions of the third and fourth ribs made it possible to explore the mass, which, to the astonishment of all present, was found to fill the greater part of the right side of the chest, bulging toward the mediastinum and upward in the direction of the axilla. The connections of the tumor (an angiosarcoma) with the chest wall and sternum and its enormous dimensions precluded all surgical intervention. In the third case, Dr. Tait had made a diagnosis of hysteric spine. A skiagraph was made, and both the gentleman who made the skiagraph and Dr. Tait agreed, from the appearance of the plate, that there was undoubtedly some lesion of the tenth vertebra. A skiagraph, made two weeks later failed to show any vertebral lesion whatsoever; the column appeared perfectly normal. In order to become a precise means of diagnosis, much thought must be given to the question of X-rays. The tube, the time of exposure, the relation of patient to tube, etc., must all be carefully considered; and, above all, the proper interpretation of the skiagraph is of paramount importance. X ray work, and especially the interpretation of such work, should be done by a medical man, and should, under no circumstances, be placed in the hands of a tyro. The results of an improper examination, or an erroneous interpretation of the skiagraph may be not alone ridiculous but disastrous for the patient.

Dr. PHILIP MILLS JONES—The taking of a proper skiagraph is by no means an easy or trifling thing. All the conditions under which the exposure is made have to be taken into consideration, and the proper interpretation of the resultant picture is the most difficult part of the examination. I am inclined to think, in the case of the tuberculous foot presented by Dr. Tait, that a careful inspection of the picture by one who had much experience in such work would have revealed the true condition. The shadow of the diseased bone in the tibia is quite plain to my eyes, though it might not be to one who has seen fewer skiagraphs than have come within my ken. The interpretation of the pictures obtained must depend to a large extent upon the knowledge obtained at the operating table. For until one knows exactly what the real condition which gives rise to a certain set of shadows is, he is unable to say what the real cause of those shadows may be when he sees them in a skiagraph. As we learn what the conditions are, either from operation or through autopsies, then we may interpret the skiagraphs wherein we find similar shadows, more satisfactorily.

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RELATION OF ACUTE INFECTIOUS DISEASES TO NEPHRITIS.

Dr. FRANK X. WALLS—The relation of the acute infectious diseases to nephritis may be taken up in two ways, either as causative or being caused by nephritis. In three ways the acute infectious disease might cause nephritis directly or indirectly, and in an indirect way may be either proximate or remote. In a direct way Bright's disease might be produced by the action of the specific micro-organism of the infectious diseases acting directly upon the renal tissue. There is considerable evidence at hand to show that the pathogenic bacteria may bring about such nephritis, as evidenced by the finding in the urine of patients with infectious diseases, and in the kidney, pathogenic micro-organisms. The micro-organisms of pneumonia, of tetanus, of glanders and of typhoid have been found either in the urine or in the kidneys. In this direct way any acute infectious disease might cause a nephritis, though we must admit that this manner of exciting nephritis is rare. In the greater number of cases of nephritis we believe the acute infectious diseases are related in a more indirect way. The infectious diseases may indirectly produce a nephritis in two ways—either by the action of bacterial toxic products upon the renal tissues, or by producing certain changes in the organism that in turn are responsible for the nephritis.

The first of these ways we may speak of as proximately indirect; the latter as remotely indirect. In a remote and indirect way we might instance the occurrence of nephritis from thermal conditions, as at the beginning of many acute infectious diseases we have a considerable rise of temperature. Whether this alone would bring about a nephritis is a question. It is questionable, too, whether or not the action of the specific infectious disease on the central nervous system, by causing an eclamptic attack, could bring about such a congestive disorder as would lead to nephritis; whether the action upon the skin, as in scarlatina, where we have a profound disturbance of the skin evidenced by the exanthema and marked desquamation, and whether this change in the skin, because of the intimate vicarious relation between the skin and kidney, might have something to do with causing a nephritis; and whether anemic conditions, blood stasis or debility that might succeed an acute infectious disease could bring about nephritis. In these ways nephritis might be caused indirectly. In a greater number of cases the nephritis is produced in a more proximate but yet indirect manner, that is, by the action of the peculiar toxic bodies elaborated during the growth of the micro-organisms within the human economy. The best known of these bodies are those that have been isolated from diphtheria and tetanus. Numerous other bodies have been described in connection with the other acute infectious diseases, such as typhoid, cholera, glanders, etc.

In the other infectious diseases where the micro-organisms have either not been described, or have not been cultivated, it is believed that such bodies are doubtless produced because of the increased toxicity of the blood and the urine, and the similarity of the pathologic conditions found post-mortem, and those known to be caused by the toxalbumins. As to the nature of the bodies called toxalbumins, there is at present very little known. Some question whether or not they are albumins; whether or not they simply consist of non-poisonous, albuminous bases to which the toxic material is added. Others look upon the toxins as toxic enzymes, ferments which have a specific, selective, destructive, affinity for certain tissue molecules. Ehrlich recently, in discussing the toxic bodies, considered that we have two products of bacterial growth, one toxic and the other non toxic, or toxoid body. He believes both bodies have a selective affinity for certain cells; that the toxic and toxoid bodies may circulate in the blood for a variable period of time before they unite with the tissue-cells and form there a more or less durable connection. He offers a hypothetic explanation that the late complications of the infectious diseases, the sequelæ, may be due to the union of these non-toxoid bodies with the cells for which they have a selective affinity. There is much that is inexplicable in connection with this question of the production of nephritis by the toxic bodies produced during the infectious diseases. We might expect that if the toxic bodies produced during the acute infectious diseases are the sole excitors of nephritis, where the infection was profound, the amount of toxin would be greater, and that we would have a proportionate disturbance of renal structure: that is, a disturbance of the kidney structure proportionate to the severity of the disease. In other words, we would have in

sev[illegible]ases of acute infectious disease severe complications on the part of the different organs, such as the kidney.

We find, however, that such is not the fact clinically. The variability in the proportion and severity of cases of nephritis that follow some of the acute infectious diseases is remarkable. During some epidemics of scarlet fever the occurrence of nephritis is as low as 5 per cent.; in other epidemics as high as 50 per cent. of the cases will be followed by renal disease. This is not to be explained on the ground of the severity of the infection nor the mildness of the infection, as severe cases are not followed any oftener by nephritis than mild ones. In an individual case of infectious disease we are not permitted from the intensity of the infection, to presage whether or not we are going to have, or will be more liable to have, a nephritis following. There seems to be no rule in that regard. Nephritis may occur during the course of an acute infectious disease either at the onset, at the acme, during the decline of the disease, or as a sequel. One can only speculate as to how nephritis is brought about at these different times; whether in a given infectious disease it is the same toxic body that produces the nephritis at these different periods, or is a combination of different bodies, or whether it is the same toxic substance that is modified as to its concentration, as to its amount, or as to the duration of its action is a question. In general, it is true that the duration of the action of the toxin has a greater effect in producing an injurious action upon the cells than the strength of the toxin alone. These are among the points that occur to me in considering the subject of the relation of infectious diseases to nephritis.

RELATIONS OF GONORRHEA TO NEPHRITIS.

Dr. WILLIAM L. BAUM—There are two ways in which gonorrhea may act as an etiologic factor in nephritis: 1, in the direct extension of the gonorrheal process; 2, in pathologic changes due to gonorrheal processes in the urethra. It is often difficult to establish the first, yet there are cases in which during a gonorrheal cystitis the infection extends upward through the ureters to the pelvis of the kidneys. It is not sufficient that there should be fever, pain in the back and albumin in the urine, but there must also be found casts and epithelium of the straight urinary tubules. I have found these symptoms present in two cases. Similar cases have been reported by Vidal, Rosenstein, Zeissl, Finger and Fuerbringer. Murchison reported an autopsy on a case of suppurative pyelonephritis of gonorrheal origin.

In many cases where the gonorrheal process has long since disappeared there are remaining tissue changes, or rather strictures, in the urethra as a result of the periurethritis. These strictures may not infringe to a great extent upon the lumen of the canal. A few drops of urine remaining behind the site of these constrictions keep up a constant irritation, followed in most cases by some congestive enlargement of the prostate. With these local conditions present it requires more effort upon the part of the muscular fibers of the bladder to expel the urine. The constant exercise of these muscular fibers leads to the hypertrophy of the muscular coats of the bladder, and produces a condition known as concentric hypertrophy of the bladder. In all such cases there is considerable backward pressure, producing dilatation of the ureters, a condition with which all pathologists are familiar. This backward pressure, slightly relieved at times by the evacuation of the bladder, must lead to chronic congestion of the kidneys, and inevitably, in the course of time, to tissue changes in the kidney substance itself, for overdilatation of vessels means not only a perverted elimination, but changes in the vessel walls themselves, sometimes an endoarteritis with ultimate occlusion of the vessel. It is at this stage that the evidences of tissue changes in the kidneys are found in the urine, and that clinical symptoms of nephritis are present.

ACUTE SYPHILITIC NEPHRITIS.

Dr. WILLIAM ALLEN PUSEY—With the time that is at my disposal in this discussion, it seems best to confine myself to acute syphilitic nephritis; since even the most cursory consideration of the entire subject of renal syphilis would require more time than I may occupy.

Our knowledge of syphilis as a cause of nephritis has been greatly increased in the last few years. A brief review of the literature of the subject will, therefore, I believe, be of interest. For the first suggestion of the possibility of syphilis setting up renal disease, we can go back as far as Valsalva and Morgagni, but their references to the subject are so meager and indefinite that they possess only historic interest. Little more can be said of the comments of Blackall, Gregory and Wells. Indeed the observers of the eighteenth century, even the shrewd careful students of syphilis of the first third of this century, failed to assign to syphilis any part in the production of renal disease. Such renal complications as occurred in the course of syphilis were attributed to the treatment, particularly to mercury. As to how nearly right they were in this, we shall consider further on.

The first actual fact in the study of renal syphilis was brought forward when Rayer, in 1840, described amyloid degeneration of the kidneys of syphilitic origin. The next contributor to the subject was Ricord in 1851. Subsequent contributors to our knowledge, who should be mentioned, are Virchow, Lancereaux, Perroud 1867, Jaccoud 1867, Descouts 1878, Drysdale 1879, Nagel 1882, Cornil and Brault 1883, Mauriac 1890, Lecorche and Talmon 1891, Peterson 1891, Geraud 1892, Darier, Barthelemy and Jaccoud 1893, and Neuman 1896. The stream of literature upon the subject, small and sluggish at the start and for a long time, has attained now a respectable size, though bearing no proportion to the torrent upon most other questions concerning syphilis.

As to the renal diseases in syphilis, statistics and experience are most conflicting. Furbringer (1882), in 100 untreated cases of syphilis with previously healthy kidneys, found eight cases (8 per cent.) which developed albuminuria. The most extensive investigations on the question of the frequency of syphilitic albuminuria are those of Peterson of St. Petersburg. In an investigation into visceral syphilis, he found in 88 necropsies on syphilis, 34 cases with renal lesions, and in 36 cases in which death had been caused by syphilis itself, he found that 7 of the patients had succumbed mainly to chronic nephritis. This led him to examine carefully the urine of 200 consecutive cases of syphilis. In this investigation he found that: 6.8 per cent. showed at some time transitory albuminuria, and 4.2 per cent. showed at some time genuine syphilitic albuminuria. In all cases the determination of albumin was by boiling and the nitric acid test after Esbach's rules, so that the findings are not open to the criticism of having been arrived at by too sensitive tests.

I believe these statistics as to the frequency of albuminuria in syphilis are a revelation to most American syphilographers, and at marked variance with their experience. It is my experience, and I believe the experience of many syphilographers, that syphilitic albuminuria does not occur in anything like 6 per cent. of the cases; 1 per cent. would, in my opinion, be a liberal estimate of the proportion of cases of syphilis showing albuminuria in America. As to the true nephritis, it is my experience that it is excessively rare in syphilis. To enumerate all the cases of syphilitic nephritis ever recorded would not be a difficult task, and that fact in itself testifies to the extreme rarity of the affection. However, there can be no question as to the reliability of Peterson as an observer, and we must conclude either that albuminuria is far more common among syphilitics in Russia than in this country, or that the very large proportion of cases of transitory syphilitic albuminuria are overlooked in this country.

The symptomatology of acute syphilitic nephritis differs practically not at all from the same affection due to other causes. The disease begins insidiously with lassitude, but not greater lassitude than could be attributed to the syphilis itself, and with perhaps lumbar pains. The existence of the nephritis may be overlooked unless the urine is examined, or edema develops. The nervous symptoms are not usually well marked, and they are most frequently entirely absent. Headache and digestive disturbances are the most frequent forms in which the general toxemia manifests itself, though fatal cases of uremic convulsions have been reported by Levi and others.

In degree of severity, these cases may be divided into three classes: 1, transitory albuminuria; 2, cases of well-developed typic acute nephritis; and 3, severe cases that may go on to fatal issue.

Objection may be made to the first class of cases, on the claim that they are not nephritis at all, but only cases of renal hyperemia or transitory albuminuria, whatever that may be; but bearing in mind that these cases show, along with albuminuria, epithelial and granular casts; that cases of all degrees of severity are seen, from slight transitory albuminuria to typic cases of nephritis; that the causal factors are the same; and that under all circumstances the line between hyperemia and inflammation is an arbitrary one, there is, in my judgment, no good reason for separating these cases of transitory albuminuria from cases of genuine acute nephritis. The cases of transitory albuminuria are the most frequent manifestations of renal syphilis. In Peterson's statistics, they occur in 6.2 per cent. of all cases. I have indicated that this is far in excess of their occurrence in my experience. The most frequent time for the development of syphilitic albuminuria is two to three months after the appearance of secondaries.

Cases have been recorded by Cornil, Neumac, Fordyce, and others, where the appearance of nephritis has developed before

the disappearance of the chancre, and a number of cases before the appearance of the secondaries. On the other hand, acute nephritis is a possible complication of syphilis during any period of its active course. Unless it has occurred during the active period of syphilis, acute nephritis is not likely to develop after two years from the date of the chancre.

The prognosis in syphilitic nephritis is usually good. The cases of transitory albuminuria disappear in a few weeks under mercurial treatment. The cases of acute nephritis average in length about five weeks. (Leufleur.) After the cases reach their acme, the albumin and inflammatory products in the urine gradually diminish. The albumin may last for several months before entirely disappearing, but this is unusual, unless the lesions fail to undergo resolution and the disease passes into a chronic interstitial or parenchymatous nephritis, which does happen, but with extreme rarity.

Cases of fatal acute syphilitic nephritis have been recorded by Prendergast, Fordyce, Darier, Hudelo, Levi, and Jaccoud. In Darier's case, death occurred in twenty-four days; in Prendergast's, in two weeks. A case with repeated attacks of acute nephritis that resulted fatally had been reported by Fordyce; this case died in two and a half years. The fatal cases that have been examined show the lesions of glomerulonephritis as it occurs in infectious diseases generally, and their pathologic anatomy, therefore, calls for no extensive comment.

As to the essential etiologic factors in the causation of syphilitic nephritis, there is, in the present state of our knowledge of nephritis, room for interesting speculation. The nephritis is variously ascribed to the irritation produced by the excretion of the toxic substances of syphilis, to bacteria, and to mercury. Assuming that syphilis is due to some bacterium, the most plausible opinion is that the nephritis is the result of the irritation produced by the excretion through the kidneys of the soluble products of the specific bacteria. It is not likely that it is due to the excretion of the bacteria themselves. In the first place, the urine of syphilitics is not contagious, unless it comes in contact with an open lesion somewhere in the genito urinary tract; and if the urine is not contagious, the conclusion seems reasonable that the bacteria do not pass through the kidneys. Again, the production of nephritis by the excretion of actual bacteria is rare, as the experiments of Herter, Welch and Flexner show; so that the finding of presumably pathogenic bacteria in the kidneys would not be conclusive. It must be said that the presence of bacteria has been claimed by Nagel in one of his cases, and the question has been studied from this standpoint by Bouchard, Lecorche and Talmon, and Mannaberg. The bacteriologic findings have not, however, been by any means uniform. Fordyce, for example, in his very careful study of a fatal case, found no bacteria in the kidneys.

The possibility of nephritis being due to mercury has been frequently suggested, and it must be admitted, I believe, that at times a nephritis possibly may be set up by mercury. The most extensive statistics upon this subject are those presented by Heller to the Berlin Medical Society in 1895. He examined 280 syphilitic cases, all whom, except one, had been treated for syphilis by subcutaneous injection or by inunction, within two years. These patients were all subjected to treatment, at the time of his examination, with mercury, either by injection or inunction, and he gives the astonishing report that 25 per cent. of those treated by inunction showed albumin, and 4 per cent. of those treated by injection. The albuminuria does not appear, according to his observations, until about twelve days after the beginning of treatment. In spite of his statistics, he makes the statement that "mercurial albuminuria is comparatively rare," and in his opinion it is not yet solved whether this mercurial albuminuria does any permanent harm. In the discussion of this paper, Prof. Lewin stated that he always used hypodermic injections of mercuric chlorid, and had never seen nephritis follow its use. He believes nephritis only supervenes with insoluble preparations where it is impossible to prevent the absorption of the mercury en masse. Furbringer stated in this same discussion that in his opinion there must be an individual predisposition in those cases. There is, in short, much uncertainty as to the extent of mercurial albuminuria.

However, I believe the statistics of Heller, Weylander and Furbringer force us to admit that mercurial albuminuria does at times occur. That it is a factor of very rare importance is in my opinion shown by several considerations. In the first place, it is a well-established fact, upon which practically all observers agree, that acute syphilitic nephritis yields promptly to mercurial treatment, and that it does not yield to the ordinary treatment of nephritis without the use of mercury. In the second place, syphilitic albuminuria has been frequently observed before the patient had taken any mercury. For example, Fordyce mentions several cases of this sort, and in one of Lafleur's fatal cases of parenchymatous nephritis, the patient had never had any treatment of any sort. Theoretic considerations also render it highly improbable that mercury, as ordinarily given, can set up nephritis in healthy kidneys. As shown by Herter, the kidneys are able to do an enormous amount of work in the excretion of metallic salts, without showing any ill effect. Herter's repeated efforts to produce glomerulo- or insterstitial nephritis in rabbits and dogs, with metallic poisons, failed, and his conclusions, from apparently very careful experiments, are that it is unlikely that chronic nephritis can be produced by throwing extra work on normal kidneys. On the other hand, the experiments of Welch and Flexner establish that it is easy to produce acute nephritis by the injection of soluble toxins, as of diphtheria. Morse has shown also that injection of the filtrate from staphylococcus pyogenes aureus can set up interstitial nephritis. In the face of such experiments as these, showing the impossibility of producing nephritis experimentally by non-poisonous doses of metals, and the ease with which nephritis is produced by the injection of soluble products of pathogenic bacteria, there seems to be little reason to dread the effect of irritation caused by the excretion of mercury, as compared with the irritation produced by the toxins of an infectious disease like syphilis. In corroboration of these experimental considerations, we have the overwhelming clinical fact of the prompt beneficial effect of mercury upon acute syphilitic nephritis.

RELATION OF NEPHRITIS TO PREGNANCY.

Dr. CHARLES E. PADDOCK—The etiology of nephritis in pregnancy has given the obstetrician no end of worry, and is probably at the present far from solution. That there is a nephritis which develops in pregnancy, is produced because of the puerperal state and usually disappears immediately following labor, there can be no doubt. Numerous theories have been advanced regarding the etiology, but the more recent one, that the nephritis is secondary and not primary, will no doubt be the means of solving the perplexing question. The symptoms are those of acute nephritis in the non-pregnant. There may or may not be albuminuria. The condition may manifest itself early in pregnancy, but usually comes on in the latter months, or following labor. To arrive at the cause of this nephritis, it is necessary to study the lesions which are found from eclampsia.

Schmorl (*Virchow's Arch., St. Louis Med. and Surg. Jour.*, May, 1896) reports histologic findings in 23 cases dead from eclampsia. "In the vessels were found large multinucleated cells, which were considered to be cells derived from the placenta, and also multiple capillary thromboses. In the liver he found the chief changes to be necrotic in character. He found thrombi in the smaller veins and capillary vessels of the periportal tissue, and necrotic areas were to be seen. The kidney usually exhibited changes. The labyrinthian epithelium was swollen and often necrotic. The tabules contained degenerative products and casts. The glomeruli, except for evidences of albumin in the capsule of Bowman, exhibited little that was pathologic. From these facts the conclusion was drawn that the disease is essentially due to the pressure in the blood of coagulating ferment formed either by the degeneration of the free placental cells found in the blood, or by degenerative changes in the placenta itself. These thrombotic changes are paramount."

Tarnier describes these lesions of the different organs. He says the greatest changes seem to be in the liver, especially in the formation of infarcts and necrotic patches, and in the dilation of the capillaries.

Schmorl concludes from the lesions found that the symptoms produced are toxic in origin. Under normal conditions, according to Tarnier, these exhibit a certain amount of fatty degeneration of liver-cells during pregnancy. To account for the kidney lesion and the renal insufficiency, he suggests, "that there is an imperfect elimination of the non-nitrogenous product of retrograde metamorphosis due to the fatty degeneration of liver cells, whose activity is overburdened by the increase of biliary salts derived from the fetus, and which must be eliminated by the maternal liver." From this imperfect action of the liver, from its failure to entirely transform the waste non-nitrogenous products into urea, the kidney is irritated by bodies which are thus formed. Following this we have an inactivity of the renal organ. In thirteen cases of nephritis occurring during pregnancy, and resulting in death, degenerations of the hepatic cells and vessels were the primary lesions, the kidney lesion being secondary. Auto intoxication produced by a product of metabolism during pregnancy, this causing an overloading of the system and producing secondary

changes in the liver and kidney, is a theory which presents some favorable points.

One of the latest theories, that a bacillus has been isolated which produces the toxemia and secondary nephritis, is not believed by bacteriologists.

It is difficult to explain away the theory of pressure upon the ureters or kidney. That nephritis occurs in primipara more often than multipara; that it occurs in twin pregnancies and hydramnios oftener than in normal conditions, is a factor in favor of this theory. Emptying the uterus usually succeeds in stopping a convulsion and correcting the kidney lesion, and it does not necessarily follow that a case of nephritis occurring during the first pregnancy will be followed by nephritis in subsequent pregnancies. Still, when we consider the number of cases of tumors, when the pressure upon the ureter and kidneys is much greater, and no nephritis is present, the "pressure theory" must be somewhat modified.

In the nephritis of pregnancy, i. e., when there has been no lesion of the kidney previous to this time, the prognosis under treatment is favorable.

SURGICAL TREATMENT OF NEPHRITIS OR BRIGHT'S DISEASE.

Dr. ALEXANDER HUGH FERGUSON—I desire to state, at the outset, that nephritis so far is purely a medical subject; that its surgical treatment is not mentioned in the various textbooks on surgery; that the inflammatory conditions spoken of in them are pyelitis and perinephritis, and that so-called surgical kidney is within the range of these as well as various other forms of suppuration in and about the kidney; and that the treatment for these has been nephrotomy and nephrectomy until quite recently, when Kelly introduced irrigation of the pelvis of the kidney for pyelitis. It was not my intention to publish my work in this direction so early, but the immediate results have been so satisfactory and the opportunity so propitious, that I feel constrained to give some of my observations. Nephritis, or Bright's disease, has an important surgical relation, and I predict that this new field will be the means of saving many a kidney from partial or total degeneration, often mitigating suffering and saving lives. The medical aspect at present of nephritis is a very sad one. The various pathologic changes are well known, but the treatment for these is everything but satisfactory. The best authorities on internal medicine admit that medication is almost invariably useless. In this connection I might quote Osler (p. 874), who, in speaking of acute nephritis, says: "For the persistent albuminuria, I agree with Roberts and Rosenstein that we have no remedy of the slightest value." The prognosis of chronic Bright's disease is admittedly very bad; as my good old professor used to say, "It is dark, dark, and as dark as dark."

The treatment consists largely in seeking a California climate. It matters not what the cause of the nephritis may be, whether it is due to cold, burns, skin affections, infectious fevers, contagious diseases, specific ailments, pyogenic organisms, chemic toxications, pregnancy or what not, circulatory changes are the first to occur, causing vascular engorgement and enlargement, with intracapsular tension of the kidney, and the secondary changes are epithelial. It is well known that certain blood pressure within the glomeruli, and the activity of kidney epithelium, accomplish the normal secretion of urine. This is the accepted view. Cohnheim has shown that renal epithelium is extremely sensitive to circulatory changes, and that compression of the renal artery for only a few minutes causes serious disturbance, as mentioned by Os' ". It is wonderful, therefore, that an inflamed kidney ever recovers, and it no doubt does so on account of its great vascularity, abundant nutrition, and the wonderful sources of drainage it has through its uriniferous tubules. We are oftentimes surprised to find at autopsies the small amount of kidney tissue that had sufficed to carry on excretory functions during life, e. g., cases of hydronephrosis and renal calculi, where, not infrequently, there was but a thin peripheral layer of kidney tissue. We also know that many a person lives in apparent perfect health with but one kidney. If, therefore, nephritis can only be arrested so as to restore to health but a portion of kidney, just sufficient to carry on even a small portion of the excretory functions allotted to it, a great advance will have been made. This, I feel convinced, can readily be done by judicious surgical interference in properly selected cases and certain stages of the disease. The general surgical principles which we apply to control inflammation in other parts of the body should, as far as possible, be directed to the inflamed kidney: 1, remove the cause, if possible; 2, keep the inflamed part at rest; 3, reduce the local blood pressure; 4, prevent access of fresh etiologic agents; 5, hasten absorption and aid resolution: 6, relieve tension, and, 7, drain the inflammatory products. All these indications for treating inflammation, with the exception of the two last, are in nephritis well carried out by internal medication and the general management of the case. If an inflamed kidney were situated beneath the skin, in the loin, where it could be more easily palpated and explored, we would have no hesitation in recommending and employing bold surgical treatment when clearly indicated. The tension, threatening necrosis, molecular destruction and obstruction to excretion by the kidney would be relieved by aspiration, puncture, scarification, free incisions, thorough drainage, etc., as is carried out elsewhere.

It is interesting to look back and see how one error after another has been the means of advancing our medical knowledge and changed internal medication to operative procedures. It is now many years since the older surgeons opened kidneys expecting to find stone, but were rather chagrined at their error in diagnosis. I venture to say that every surgeon of large experience has committed this error, but none of them, as far as I know, has made a complete study of the condition of the kidneys in these cases. The post-operative diagnosis of these is usually put down as nephralgia. It was, however, pointed out by the more observant surgeons that the albuminuria, the hematuria, and local tenderness and pain often subsided after the operation. They were probably cases of nephritis, and were not recognized as such at the time.

Another class of cases that has come under surgical treatment, and from which important lessons may be learned bearing on this subject, is that of floating kidney. Some kidneys have been exposed for the relief of abnormal mobility, pain and tenderness, but in some cases, although the mobility was relieved, the pain and tenderness persisted. Again, it was noticed that these were usually the ones where the capsule was not split nor the kidney explored. There is no doubt in my mind that many of these tender and painful floating kidneys are cases of unrecognized nephritis. In this connection I would like to point out to you some of Reginald Harrison's work, in the *Medical Weekly*, October, 1896, and the *Medical Recorder*, November, 1896, who recommends puncture and incision through the capsule of the kidney to relieve tension. (Dr. Ferguson then gave some of his earlier and incomplete work which led to the complete study of two cases of nephritis which recently came under his care for surgical treatment.)

The following two cases were sent from a distance for diagnosis and treatment after internal medication, rest, etc., proved of no avail. These two cases were operated upon, the kidneys exposed, punctured, capsules peeled off in part or in whole, and the patient symptomatically cured.

Case 1.—Acute nephritis or Bright's disease, caused by exposure to cold. Pain persistent over left kidney with severe exacerbations for the last three years, incapacitating her for work for the last three months. Urine contained no albumin at any time, but was scanty. Hyaline casts were present in one specimen at several examinations. The kidney was explored and decapsulated. Immediate relief from pain was afforded, and patient walked out of the Post-Graduate Hospital symptomatically cured on the twenty-second day after operation.

This patient, Mrs. M., of Odell, Ill., was referred to me by Dr. Walter Fitzpatrick. She is of Irish extraction, and presented herself at the Post-Graduate Hospital complaining of pain in the region of the left kidney, and dizziness. She was 37 years of age; weighed 250 pounds; her occupation was that of housewife and washerwoman. Present illness began three years ago last December, when she felt the pain in the region of the left kidney for the first time. This pain has been constant, with exacerbations in that locality ever since. She has been able to attend to her duty until within the last three months, since which time she has been incapacitated from doing anything whatever. During the exacerbations the pain would radiate to the back and down the inguinal region. The spells lasted for two or three hours and would be brought on by exertion, and had to be relieved with morphin.

The previous illness and personal history are insignificant. She had always been healthy. Since her pain began she has been pregnant twice, carrying one child to full term, and miscarried six months ago, after which she was curetted to stop the flow of blood, but the pain in the kidney was never relieved, nor increased by these two pregnancies.

The family history is fairly good. Her mother, however, died of dropsy at the age of 61 years. She has five brothers, all in good health, except the youngest, who is 28 years of age, and has consumption.

Physical examination shows a stout, well-nourished woman, weighing 250 pounds; florid complexion; heart normal; pulse 86, full and strong; temperature 98.5; respiration 18; tongue clean; appetite fair; digestion good; bowels inclined to be constipated, some bloating, especially during the exacerbations

of pain. Abdomen very fat and flaccid. No tumors could be felt. All abdominal organs, except left kidney, normal to touch; pelvic organs normal. The right kidney is not tender, but the left is extremely so on pressure, and deep pressure or prodding brings on an exacerbation or an attack of pain which lasted for nearly an hour. The urine is small in quantity, 24 ounces in twenty-four hours; clear, and of dark amber color when fresh, but on standing a few hours a deposit of urates and phosphates occurs. In six examinations of the urine before operation the specific gravity was between 1025 and 1026, acid reaction, no sugar, no albumin found at any time, no germs, no blood, and no pus. In one examination a few hyaline casts with uric acid crystals were found. She was observed for two weeks in the hospital before operation. No diagnosis was made, but a stone in the kidney was suspected, and exploration advised.

Operation and operative findings.—After the usual preparations with saline purge, ordered eight hours previously, etc., chloroform was administered, and an oblique incision seven inches long was made below the left costal arch, cutting through all the structures in the usual manner until the kidney was exposed. The fat being removed, the peeled-off capsule of the kidney was sutured to the lumbar fascia on either side of the wound, thus suspending it in the lumbar region. A large gauze drain was inserted at the posterior angle of the wound; the muscles sutured together with chromoform catgut, the skin with silkworm gut, and the wound dressed and the patient put to bed.

The kidney was found to be enlarged, 5 inches long and 2¾ inches broad, by actual measurement, and felt thicker than the normal; it was displaced somewhat downward and inward and encased in an enormous mass of fat. The capsule over the vertex being split, cortical substance protruded, clearly demonstrating the presence of intracapsular tension. The capsule was thicker than normal and non-adherent except about the center of the kidney on its anterior surface, where it was firmly attached. No bleeding occurred upon peeling off the capsule except at the point where it was firmly adherent. The kidney was explored in various directions by means of a blunt, straight needle; bleeding very freely took place, but no stone was detected. As no diagnosis was still made, I removed a small section from the cortex of the kidney at about its middle and had it examined in Klebs' laboratory, a report of which is here appended, and the case proved to be one of nephritis.

Progress.—The patient stood the operation well. With the exception of complaining of pain in the wound, she had no subsequent inconvenience. No shock was manifest. There was immediate relief of the chronic pain in the kidney; pulse 80; temperature 100 eight hours after the operation, during which time she had one dose of strychnia and one dose of codein. In fifteen hours the urine was drawn off with catheter; the quantity the first twenty-four hours was twenty-two ounces, and contained blood. On the third day there was a rise of temperature to 103, pulse 98, and respiration 25, which was due to the gauze in the wound preventing free exit to the enormous amount of blood serum pouring from the wound. This being rectified and a rubber drainage tube inserted with gauze, the temperature immediately subsided. She remained in bed for nearly three weeks; the wound closed perfectly, and on the twenty-second day she walked out of the hospital symptomatically cured. Her pain, tenderness and dizziness were completely relieved as the result.

Pathologic examination (Klebs' Pathologic Laboratory).—The section of kidney from the case of Mrs. M., sent to the laboratory January 4, 1899, presents the following changes: The connective-tissue growth is not extensive; the lining epithelium of the tubes is more implicated, as in chronic parenchymatous nephritis. The lining epithelium of the convoluted tubules shows cloudy swelling, and there is some small cell infiltration in some parts of the kidney, indicating that the inflammatory process is still existing. The epithelia of the glomeruli are nearly lost, some of the glomeruli consisting only of a homogeneous mass. Capsules of Bowman thickened; tubules with atrophic epithelium present, dilated tubules, desquamated epithelium in some of them, hyperplastic connective tissue around others. Pathologic diagnosis: "Interstitial nephritis with cloudy swelling."

Case 2.—Nephritis (Bright's disease). Chronic pain over the right kidney for two years, with acute exacerbations, confining her to bed for the last two months; addicted to morphia for the relief of pain, taking from two to eight grains in twenty-four hours. During the last eight months there has been a daily rise of temperature, chills, etc. Urine contained no albumin; a few coli bacilli and staphylococci present. Kidney was decapsulated, with immediate relief of pain and fever. Patient left hospital on the thirty-fifth day after operation, symptomatically cured. A small section about the size of a bean was removed from the cortex of the kidney for microscopic examination.

Mrs. W., of Stanton, Neb., referred to me by Dr. Persons, presented herself at the Post-Graduate Hospital complaining of chronic pain in the right kidney, daily return of fever, and morphin habit. She is 26 years of age, married, American. Her health was good until 1897, when she was taken with pulmonary hemorrhage, which was not severe, and has never returned. Three years ago she had a miscarriage. In August, 1897, a trachelorrhaphy was performed, which was not successful, suppuration having occurred. Immediately thereafter she was very ill with high fever and pain in the right kidney for the first time. Ever since this time she has been troubled off and on with pain in the kidney and with a pyrexia ranging from 99 to 104. In 1898, Dr. Lee of Omaha operated on her for biliary calculi successfully, removing gall-stones, and obtaining union of the wound by first intention. Tenderness and pain in the right kidney still persisted, and the fever was abated but for a short time after the operation. A second operation was done to liberate adhesions which might be the cause of her trouble. The wound of this operation also healed kindly, but she was not relieved of her pain and pyrexia. The last eight months she has been treated for malaria, without any benefit. The only thing in her personal history worth mentioning is unhappy relations with her husband. This gave her considerable worry. Her family history is good.

Physical examination.—Upon entering the hospital a scar was found over the gall-bladder; the abdomen was generally tender, more especially over the right kidney, which was apparently slightly enlarged, and could be felt by palpation. Deep pressure over the right kidney was unbearable. Uterus and adnexa were movable, but tender. Cervix was lacerated; the other abdominal organs were apparently normal; pulse 80; temperature 100; respiration 18. Twenty-three ounces of urine passed in twenty-four hours, specific gravity 1020, acid in reaction, no albumin, no sugar. A few corpuscles, a few casts and amorphous urates were found, the urine teeming with micro-organisms, coli bacteria, phagocytosis of very fine bacilli. Diagnosis: Septic kidney.

Operation and operative findings.—A transverse incision exposed the kidney. The fatty capsule was very scant and bled freely on removing it. The fibrous capsule, several times thicker than normal, was adherent to nearly all the anterior surface of the kidney and non-adherent to the rest. The enlarged kidney measured nearly five inches in length, and was thicker than normal, of darkish hue. The capsule was split and peeled from two-thirds of the kidney without causing any bleeding. The kidney was then explored with a blunt needle, from which puncture it bled freely. The pelvis of the kidney was then opened through the kidney substance, but no pus, nor stone was found. There was nothing discovered except an enlargement, an engorgement and a pathologic feel of the kidney. The capsule was sutured to the lumbar fascia on both sides, and the kidney and wound drained with a rubber tube and gauze. The muscles were sutured together with catgut, the skin with silkworm gut, the wound dressed and the patient put to bed. The patient stood the operation well, suffering very little shock or inconvenience. The temperature never rose above 100 after the operation, and there was an enormous discharge from the wound, necessitating frequent changing of dressings. Only two doses of morphin of four grains each time were given since the operation. Never since the operation has she complained of pain, or undue tenderness in the region of the kidney other than that which is usually found at the seat of operations. The urine passed after the operation contained, in addition to the above mentioned ingredients, a considerable quantity of blood the first few days. The quantity of urine increased till about the eighth day, when she passed thirty-seven ounces. The last examination was made on February 10, four days after the operation: specific gravity 1020, no albumin, no sugar, acid in reaction, urea 2.1 per cent., some micro organisms, the same as in the examination before the operation, but not nearly so abundant.

Dr. Zeit furnishes the following report from Klebs' Laboratory: The section of kidney from the case of Mrs. W., examined Jan. 14, 1899, shows the picture of an interstitial nephritis with much proliferation and hyperplasia of connective tissue, areas of which consist entirely of this connective tissue growth with obliterated or waxy glomeruli. Between these portions are found islands of partially changed kidney tissue in which there are atrophic tubules and tubules with a desquamated epithelium, flattened epithelial lining in tubules of diminished caliber and some cloudy swelling in the lining of the epithelial cells. In some of the tubules hyaline casts are found. The capsules of glomeruli are thickened, and their connective

sue with many nuclei is arranged in concentric layers.

Indications.—It appears to me that the following symptoms and signs would speak a condition needing exploration of the kidney: 1, persistent pain; 2, persistent tenderness; 3, persistent hematuria; 4, persistent albuminuria; 5, persistent pyuria; 6, persistent troublesome abnormal mobility; 7, persistent enlargement. The two cases above reported had only persistent pain and tenderness.

Remarks.—It is too early to come to positive conclusions as to the ultimate results to be obtained by surgical exploration of cases of nephritis. But of one thing I am certain, that is, that nephritis (Bright's disease) has a valuable surgical relation. This line of work is in its infancy. Let us use it to relieve suffering. If we can help it, let us not sacrifice organs and lives on the infamous altar of pseudo-conservatism, nor be too dastardly cowardly to recommend and put in practice our honest convictions founded on knowledge obtained by accidental experience or otherwise, but nevertheless purely scientific. The progress of surgical art and science is too liable to be attacked by the elated egotist and pessimist, who dramatically says, "I am the Norns of surgery."

THE MENTAL RELATIONS OF NEPHRITIS.

Dr. DANIEL R. BROWER—The mental disorders that accompany nephritis may be divided into three groups—the acute delirious uremia and two forms of uremic insanity. Dr. Preble has just given us a very admirable account of the pathogenesis of acute delirious uremia, and it is scarcely necessary for me to take any more of your time in the consideration of this very important and most common form of mental disorder accompanying Bright's disease. It is not an insanity, but it is an acute intoxication. We have, however, two forms of insanity that it is very important that we clinically differentiate. One form we find in the ordinary neuropathic individual who has no special tendency to insanity and whose family history is free from this inheritance. It is the product of a chronic intoxication. Its pathogenesis, therefore, differs from acute delirious uremia simply in the process being a chronic one, a prolonged toxemia. The brain's nutrition is impaired by the process continuing for a long period of time. This form of insanity is usually a dementia. These are not, as a rule, cases demanding asylum treatment. They do not usually show any very violent tendencies, and they require precisely the same line of treatment as the cases of acute delirious uremia; less energetic, however, but prolonged through a very much greater space of time, and can be successfully treated in their homes or in a general hospital. This form of uremic insanity is not common. The ordinary form of insanity that results from nephritis develops in the individual who has the insane tendency. The insufficient elimination, the accumulation of the toxic products, the derangement of the circulation result in the development of a latent tendency. These several factors simply serve as the match does, to set fire to the already prepared fuel. The form of insanity that may result from these exciting causes may be any one of the possible varieties of mental disease. It would not, as a rule, be dementia, more probably a mania or a melancholia. These cases do not require a treatment very much different from that which is required for insanity in general. They will require as do most of the cases, isolation and the general methods that are found best in a well-governed hospital for the insane. The prognosis of these cases will depend very largely upon the extent of the renal disease.

(*To be continued.*)

Philadelphia County Medical Society.

Regular Meeting, March 8, 1899.

Dr. EDMUND W. HOLMES made the principal address of the evening, entitled

MODERN TEACHING OF ANATOMY.

He thought that one of the greatest fallacies of the present time was regarding didactic lectures, which, while having some advantages, did not succeed in bringing the student in close relationship with the professor, nor with the subject in hand, thereby depriving him of that knowledge only gained by absolute familiarity with the parts as they existed in the human subject. For this reason the teacher who was with the student when the dissection was being done, who assisted him in the study of each part and who examined the student when the parts were fully dissected, should hold a position not subordinate to the one who gave didactic lectures, but in fact should have a rank even higher than the didactic teacher. The didactic lectures were very important, he admitted, in unfolding to the student many of the relationships that existed between the nerves, arteries, veins, fascia and muscles, because in many specimens that had been carelessly dissected these relations could not be demonstrated as well as when this work had previously been done by one familiar with anatomy, and when each part could be pictured to the student in more vivid colors.

Another fallacy which frequently existed was the fact that inferior specimens were too often brought to the student for dissection. In one college he had visited he had gained the impression that more attention had been paid to the preservation of the bodies of the lower animals than to that of the human species. In pointing out to the students the essential and practical side of anatomy, one should be impressed with the idea that it was not the names of each individual artery, nerve, vein and tendon, but the *relation* which it bore to each surrounding part, namely, the relation to each bone, muscle and fascia.

Prof. SPENCER TROTTER of Swarthmore College agreed with Dr. Holmes relative to the teaching of human anatomy, but also thought that much might be learned by a dissection of the lower animals. This was of especial importance in teaching anatomy in places where there was not such a plentiful supply of bodies as were found in the larger cities. Some of his students had been very proficient in dissecting the thoracic duct and the abdominal sympathetics in the cat. He thought much could be learned by a study of zoölogy and botany.

Dr. W. S. FORBES of the Jefferson Medical College made an eloquent appeal, in which he particularly emphasized the great importance of a mutual fellowship and good will which should exist between the instructor and the pupil. Too often the student had such an irreverence for the human body that instead of it developing the finer qualities within him, it would call up the reverse. From this fact, that person who imparted the instruction to the student as viewed in the dissecting-room should not be subordinate to the didactic professor, but in fact should outrank him. Moreover, this most fundamental branch of medicine should not be taught late at night, when the tired brain already felt the effects of the daily task, but in the morning, when the mind could more easily grasp the necessary knowledge. After the student had acquired knowledge in this way, he thought it of far better advantage to have the examinations upon the green specimen, so that one could be sure the student knew what he was talking about. In at least one case he knew of, the student was entirely unable to locate upon the cadaver the femoral artery or the uterus.

Dr. HENRY BEATES, a member of the State Board of Medical Examiners, gave some humorous instances in which students had demonstrated their ignorance of anatomy. He thought that special stress should be laid upon the teaching of the physiology and pathology of each part, together with that of the anatomic relationship.

Dr. ADDINELL HEWSON also endorsed the idea of close relationship between the teacher and pupil, and that the instructor in the anatomic room should not be of a subordinate rank to that of the didactic professor. In giving proper instruction it was always best to divide the class into small sections, when more time could be devoted to each individual student. He agreed with Dr. E. W. Holmes that the examinations in anatomy should not be completed at the end of two years, but that it should be distributed throughout the whole four years.

Dr. O. H. ALLIS thought that anatomy was the very foundation of all medicine and surgery and that a wrong spirit pervaded this teaching when in so short a time the names of Gross, Pancoast and Agnew were almost forgotten. He was greatly opposed to what is now known as a "professor," and if he was to endow a college he would not have a professor in it. They should, he thought, give instruction in the right way—by mutual relationship with the student.

Dr. CHARLES K. MILLS thought the time had come when the whole medical curriculum should be reorganized. In order to give proper instruction in anatomy, as well as many other subjects, special laboratories should be erected.

Dr. JOHN B. ROBERTS stated that all the previous speakers had only referred to anatomy as it occurred in the dead body. He thought a great deal could be learned from a study of the living, even while about our daily toil. He also thought it best in many cases, in giving instruction to the student, that the cadaver should be hung up, when the parts would more accurately conform to their relative positions during life.

Dr. W. M. L. COPLIN thought that the student, in beginning the study of anatomy, should first be taught the characteristics of each individual cell, in other words, histology, when the other kowledge would be more easily learned. Gross anatomy could then be learned and again be worked down to the cell unit.

Dr. JOHN B. ROBERTS read a paper on the importance of using

EXTREME FORCE IN THE REDUCTION OF COLLES' FRACTURE.

Three times within the past few weeks he had been called upon to refracture the radius, on account of faulty union caused by the fact that sufficient force had not been used in trying to reduce the fracture when it first occurred, and the lower fragment had been caught between the fascia, or there had been an impaction of the upper fragment into the lower, which a forcible reduction at the time would have remedied. In the manipulation which he had found of advantage, the hand was first pulled down quite forcibly, to be followed by a quick upward movement, when the bones would usually fall into apposition. In the subsequent treatment he had entirely discarded the Bond splint, and preferred a posterior splint together with an anterior splint well padded at the hand. He exhibited two patients treated according to his method, without stiffening of the fingers.

Dr. CHARLES L. LEONARD spoke of some results he had obtained in a study of Colles' fracture by means of the X-ray, but at this time he could not speak definitely regarding the question of faulty union.

Dr. J. C. WILSON introduced a resolution to the effect that a committee from the Philadelphia County Medical Society be appointed for the purpose of going to Harrisburg and urging members of the Legislature not to repeal the vaccination laws as they now existed in this State. The resolution was carried unanimously and the following committee was appointed by the chair: Drs. J. C. Wilson, John H. Musser and S. Hulshizer.

Medical Societies Entitled to Representation in the American Medical Association, March 15, 1899.

The delegates shall receive their appointment from permanently organized State medical societies, and such county and district medical societies *as are recognized by representation in their respective State societies*, and from the medical departments of the Army and Navy and the Marine-Hospital Service of the United States.

Each State, county and district medical society entitled to representation shall have the privilege of sending to the ASSOCIATION one delegate for every ten of its regular resident members, and one for every additional fraction of more than half that number; *Provided*, however, that the number of delegates for any particular State, Territory, county, city or town shall not exceed the ratio of one in ten of the resident physicians who may have signed the Code of Ethics of the ASSOCIATION.

Members by Application. Members by application shall consist of such members of the State, county and district medical societies entitled to representation in this ASSOCIATION as shall make application in writing to the Treasurer, and accompanying said application with a certificate of good standing, signed by the president and secretary of the society of which they are members, and the amount of the annual subscription fee, $5. They shall have their names upon the roll, and have all the rights and privileges accorded *to permanent members*, and shall retain their membership upon the same terms.

In accordance with the above extracts from the Constitution, this list is prepared as certified by the secretaries of the State and Territorial medical societies.

Any societies that are omitted should send to the office of the Permanent Secretary notice to that effect *accompanied by a certificate from the secretary of the State society that said society is so recognized in accordance with the above quoted law.*

WM. B. ATKINSON, permanent secretary.
1400 Pine Street, Philadelphia.

ALABAMA.

Alabama State M. S., and all County Societies.

ARIZONA.

Arizona Territory M. S.
Maricopa County M. S.
Pima County M. S.
Yarapai County M. S.

ARKANSAS.

Arkansas State M. S.
Baxter County M. S.
Crawford County M. S.
Hot Springs M. S.
Lee County M. S.
Phillips County M.S.
Prairie County M. S.
Sebastian County M. S.
Southwest Arkansas M. S.
Washington County M. S.

CALIFORNIA.

California State M. S.
Alameda County M. S.
California Acad. of Med.
El Paso M. S.
Fresno County M. S.
Humboldt County M. S.
Kern County M. S.
Lake County M. S.
Los Angeles M. S.
Marin County M. S.
Medico-Chirurg. S.
Orange County M. S.
Pasadena M. S.
Placer County M. S.
Pomona Valley M. S.
Riverside County M. S.
San Diego County M. S.
Sacramento S. for Med. Improvement.
San Bernandino County M. A.
San Francisco County M. S.
San Francisco Clin. S.
San Joaquin County M.S.
San Joaquin Valley M. S.
San Louis Obispo and Northern Santa Barbara County M. A.
Santa Barbara County M. S.
Santa Clara County M. S.
Santa Cruz County M. S.
Sonoma County M. S.
Southern California M. S.
Tulare County M. S.
Ventura County M. S.
Yolo County M. S.
Yuba and Sutter Counties M.S.

COLORADO.

Colorado State M. S.
Alumni Ass'n of the Gross M. College.
Boulder County M.S.
Cripple Creek M. S.
Denver Clin. S.
Denver Clin. and Path. S.
Denver and Arapahoe M. S.
Denver Med. Col. Alumni Association.
El Paso County M. S.
Fremont County M. S.
Lake County M. S.
Las Animas County M. S.
Practitioners' Club of Denver.
Pueblo County M. S.
Weld County M. S.

CONNECTICUT.

Connecticut State M. S.
Fairfield County M. S.
Hartford County M. S.
Hartford M. S.
Litchfield County M. S.
Middlesex County M. S.
New Haven County M.S.
New London County M. S.
Norwich M. A.
Tolland County M. S.
Windham County M. S.

DISTRICT OF COLUMBIA.

Med. Ass'n of D. C.

DELAWARE.

Delaware State M. S.

FLORIDA.

Florida State M. S.
Alachua County M. S.
Duval County M. S.
Hillsborough M. S.
Osceola County M. S.
St. John County M. S.

GEORGIA.

Georgia State M. S.
Atlanta Soc. of Med.
Macon M. S.

IDAHO.

Idaho State M. S.

ILLINOIS.

Illinois State M. S.
Adams County M. S.
Æsculapian S. of Wabash Valley.
Aurora M. S.
Belleville M. S.
Brainard Dist. M. S.
Bond County M. S.
Bureau County M. S.
Cairo M. S.
Calhoun County M. S.
Capital Dist. M. S.
Central Dist. M. S.
Champaign County M. S.
Chicago Acad. of Med.
Chicago Gynecological S.
Chicago M. S.
Chicago Medico-Legal S.
Chicago Neurological S.
Chicago Ophthal. and Otol. S.
Chicago Orthopedic S.
Chicago Pathological S.
Chicago Physician's Club.
Chicago Soc. Internal Med.
Chicago Soc. Med. Examiners.
Clay County M. S.
Clinton County M. S.
Coles County M. S.
Crawford County M. S.
Decatur M. S.
Dewitt County M. S.
Douglas County M. S.
E. St. Louis M. S.
Egyptian M. S.
Fox River Valley M. S.
Fulton County M. S.
Galva Dist. M. S.
Galesburg M. S.
Gallatin County M. S.
Green County M. S.
Hancock County M. S.
Hardin County M. S.
Henry County M. S.
Iowa and Ill. Cent. Dist. M. S.
Jackson County M. S.
Jacksonville Med. Club.
Jersey County M. S.
Kankakee County M. S.
Lake County M. S.
La Salle County M. S.
Lawrence County M. S.
Macoupin County M. S.
Marion County M. S.
Massac County M. S.
McDonough County M. S.
McLean County M. S.
Med. and Sur. S. of Western Ill.
Military Tract M. A.
Monroe County M. S.
Morgan County M. S.
Moultrie County M. S.
North Central Illinois M. S.
Ogle County M. S.
Ottawa City M. S.
Peoria M. S.
Peoria County M. S.
Perry County M. S.
Pullman Dist. M. S.
Quincy Med. and Lib. Ass'n.
Rock River Valley M. A.
Saline County M. S.
Scandinavian M. S. Chicago.
Scott County M. S.
Shelby County M. S.
Southeastern Illinois M. S.
Southern Illinois M. S.
St. Clair County M. S.
Stephenson County M. S.
Tri-County M. S.
Twin City Clin. Ass'n. of Champaign and Urbana.
Vermillion County M. S.
Wabash County M. S.
Warren County M. S.
Washington County M. S.
Western M. and S.S.
White County M. S.
Whiteside County M. S.
Williamson County M. S.
Winnebago County M. S.
Woodford County M. S.
Will County M. S.

INDIANA.

Indiana State M. S.
Allen County M. S.
Bartholomew County M. S.
Benton County M. S.
Blackford County M. S.
Boone County M. S.
Carroll County M. S.
Cass County M. S.
Clark County M. S.
Clay County M. S.
Clinton County M. S.
Daviess County M. S.
Dearborn County M. S.
Decatur County M. S.

DeKalb County M. S.
Delaware County M. S.
Dubois County M. S.
Elkhart County M. S.
Fayette County M, S.
Floyd County M. S.
Fountain County M. S.
Franklin County M. S.
Gibson County M. S.
Grant County M. S.
Greene County M. S.
Hamilton County M. S.
Hancock County M. S.
Hendricks County M. S.
Henry County M. S.
Howard County M. S.
Huntington County M. S.
Jackson County M. S.
Jay County M. S.
Jefferson County M. S.
Jennings County M. S.
Johnson County M. S.
Knox County M. S.
Kosciusko County M. S.
Lagrange County M. S.
Laporte County M. S.
Lawrence County M. S.
Madison County M. S.
Marion County M. S.
Marshall County M. S.
Martin County M. S.
Miami County M. S.
Monroe County M. S.
Montgomery County M. S.
Newton County M. S.
Noble County M. S.
Orange County M. S.
Owen County M. S.
Parke County M. S.
Perry County M. S.
Pike County M. S.
Porter County M. S.
Posey County M. S.
Putnam County M. S.
Rush County M. S.
Randolph County M. S.
Ripley County M. S.
Shelby County M. S.
St. Joseph County M. S.
Steuben County M. S.
Sullivan County M. S.
Switzerland County M. S.
Tippecanoe County M. S.
Tipton County M. S.
Vanderburg County M. S.
Vigo County M. S.
Wabash County M. S.
Warrick County M. S.
Washington County M. S.
Wayne County M. J.
Wells County M. S.
White County M. S.
Whitley County M. S.

INDIAN TERRITORY.

Territorial Ass'n.

IOWA.

Iowa State M. S.
Austin Flint M. S.
Blackhawk County M. S.
Boone Valley M. S.
Botna Valley M. S.
Buchanan County M. S.
Cedar Valley M. S.
Central District M. S.
Cherokee County M. S.
Clark County M. S.
Clinton County M. S.
Council Bluffs M. S.
Dallas County M. S.
Delaware County M. S.
Des Moines County M. S.
Dubuque M. S.
Fayette County M. S.
Fort Dodge M. S.
Gate City M. S.
Iowa Central M. S.
Iowa and Illinois M. S.
Jasper County M. S.
Julien M. S.
Lyon County M. S.
Missouri Valley M. S.
Mitchell County M. S.
North Iowa M. S.
Pocahontas District M. S.
Polk County M. S.
Ringgold County M. S.
Sioux Valley M. S.
Southwestern Iowa M. S.
Spirit Lake Med. Association.
Wapello County M. S.
Wapsie Valley Med. Associa'n.
Warren County M. S.
Washington County M. S.
Winnebago County M. S.

KANSAS.

Kansas State M. S.
Bourbon County M. S.
Eastern Kansas M. S.
Golden Belt M. S.
Leavenworth County M. S.
South-East Kansas M. S.
Topeka Acad. of Med. & Surg.
Wyandotte M. S.

KENTUCKY.

Kentucky State M. S.
Boyle County M. S.
Central Kentucky M. S.
Clark County M. S.
Hardin County M. S.
Lexington and Fayette Counties M. S.
Marion County M. S.
Muhlenberg County M. S.
Northeast Kentucky M. S.
Owensboro M. S.
Paducah M. and S.
Southeast Kentucky M. S.

LOUISIANA.

Louisiana State M. S.
Orleans Parish M. S.

MAINE.

Maine State M. S.

MARYLAND.

Maryland Med. and Chir. Faculty (the State Society).

MASSACHUSETTS.

Massachusetts State M. S.
Barnstable District M. S.
Berkshire District M. S.
Bristol North District M. S.
Bristol South District M. S.
East Hampden M. S.
Essex North District M. S.
Essex South District M. S.
Franklin County M. S.
Hampshire District M. S.
Hampden District M. S.
Middlesex South M. S.
Middlesex East District M. S.
Middlesex North District M. S.
Norfolk District M. S.
Norfolk South District M. S.
Plymouth District M. S.
Suffolk District M. S.
Worcester North District M. S.
Worcester South District M. S.

MICHIGAN.

Michigan State M. S.
Bay County M. S.
Calhoun County M. S.
Cheboygan County M. S.
Detroit Acad. of Med.
Detroit Gynecological Society.
Grand River M. S.
Grand Rapids Acad. of Med.
Kalamazoo Acad. of Med.
Marshall Acad. of Med.
Northeastern District M. S.
Pontiac M. S.
Washtenaw County M. S.
Wayne County M. S.

MINNESOTA.

Minnesota State M. S.
Cross River Valley M. S.
Fillmore County M. S.
Minnesota Acad. of Med.
Minnesota Valley Med. Ass'n.
Hennepin County M. S.
Interurban M. S.
Olmstead County M. S.
Ramsey County M. S.
Southern Minnesota M. S.
South-Western M. S.
St. Louis County M. S.
Wabasha County M. S.
Winona County M. S.

MISSISSIPPI.

Mississippi State M. S.

MISSOURI.

Missouri State M. S.
Atchison County M. S.
Cedar County M. S.
Central Missouri District M. S.
Chariton County M. S.
Franklin County M. S.
Grand River District M. S.
Hannibal M. S.
Henry County M. S.
Hodgen District M. S.
Howard County M. S.
Independence Med. Ass'n.
Jackson County M. S.
Jasper County M. S.
John McDowell District M. S.
Kansas City Acad. of Med.
Kansas City M. S.
Lafayette County M. S.
Limton District M. S.
Macon County M. S.
Memphis M. S.
Montgomery M. S.
North Missouri M. S.
Northwest Missouri M. S.
Pettis County M. S.
Pike County M. S.
Putnam County M. S.
Rolla District M. S.
Saline County M. S.
Santa Cruz M. S.
Shelby County M. S.
Southwest Dist. M. S.
Southwest Missouri M. S.
Springfield M. S.
St. Louis M. S.
St. Charles County M. S.
St. Joseph M. S.
Western Surg. and Gyne'cal.

MONTANA.

Montana M. S.
Park Co. M. S.

NEBRASKA.

Nebraska State M. S.
Elkhorn Valley M. S.
Omaha M. S.
Southeastern Neb. M. S.
Lincoln M. S.
Loup Valley District M. S.

NEVADA.

Nevada State M. S.

NEW HAMPSHIRE.

New Hampshire State M. S.,
Carroll Dist. M. S.
Central District M. S.
Cheshire County M. S.
Conn. River Valley M. S.
Manchester M. A.
Nashua M. A.
Rockingham Dist. M. S.
Strafford Dist. M. S.
White Mountain M. S.
White River Dist. M. S.
Winnepesaugee Acad. Med.

NEW JERSEY.

New Jersey State M. S.
Atlantic County M. S.
Bergen County M. S.
Burlington County M. S.
Camden County M. S.
Cape May County M. S.
Cumberland County M. S.
Essex County M. S.
Gloucester County M. S.
Hudson County M. S.
Hunterdon County M. S.
Mercer County M. S.
Middlesex County M. S.
Monmouth County M. S.
Morris County M. S.
Ocean County M. S.
Passaic County M. S.
Salem County M. S.
Somerset County M. S.
Sussex County M. S.
Union County M. S.
Warren County M. S.

NEW MEXICO.

New Mexico State M. S.
Bernalillo County M. S.

NEW YORK.

New York State M. A.
Hornellsville M. and S. A.
Kings County M. A.
New York County M. A.
Ontario County M. A.
Med. Ass'n of Troy and Vicinity.

NORTH CAROLINA.

North Carolina State M. S.
Buncombe County M. S.
Charlotte M. A.
Raleigh Acad. of Med.

NORTH DAKOTA.

North Dakota State M. S.

OHIO.

Ohio State M. S.
Adams County M. S.
Allen County M. S.
Ashland County M. S.
Ashtabula County M. S.
Belmont County M. S.
Brown County M. S.
Butler County M. S.
Central Ohio M. S.
Champaign County M. S.
Cincinnati Acad. of Med.
Clarke County M. S.
Clermont County M. S.
Cleveland M. S.
Clinton County M. S.
Columbus Acad. of Med.
Crawford County M. S.
Cuyahoga County M. S.
Defiance County M. S.
Delaware County M. S.
Eastern Ohio M. S.
East Liverpool M. S.
Erie County M. S.
Fayette County M. S.
Gallia County M. S.
Greene County M. S.
Hancock County M. S.
Hempstead Mem. Acad.
Highland County M. S.
Hildreth District M. S.
Holmes County M. S.
Jackson County M. S.
Jefferson County M. S.
Lawrence County M. S.
Lorain County M. S.
Lucas County M. S.
Mahoning County M. S.
Mansfield Acad. of Med.
Marion County M. S.
Meigs County M. S.
Miami County M. S.
Miami Valley M. S.
Montgomery County M. S.
Morrow County M. S.
Muskingum County M. S.
North Central Ohio M. S.
Northwestern Ohio M. A.
Perry County M. S.
Pickaway County M. S.
Pike County M. S.

Portage County M. S.
Ross County M. S.
Sandusky County M. S.
Shelby County M. S.
Stark County M. S.
Stillwater M. A.
Toledo M. A.
Trumbull County M. S.
Tuscarawas County M. S.
Union M. A.
Union M. A. of N. E. Ohio.
Warren County M. S.
Washington County M. S.
Wayne County M. S.

OKLAHOMA.

Oklahoma Territorial M. S.
Oklahoma Central M. S.

OREGON.

Oregon State M. S.
Portland M. S.
South Oregon M. S.

PENNSYLVANIA.

Pennsylvania State M. S.
Allegheny County M. S.
Armstrong County M. S.
Beaver County M. S.
Bedford County M. S.
Berks County M. S.
Blair County M. S.
Bradford County M. S.
Bucks County M. S.
Butler County M. S.
Cambria County M. S.
Carbon County M. S.
Centre County M. S.
Chester County M. S.
Clarion County M. S.
Clearfield County M. S.
Clinton County M. S.
Columbia County M. S.
Crawford County M. S.
Cumberland County M. S.
Dauphin County M. S.
Delaware County M. S.
Elk County M. S.
Erie County M. S.
Fayette County M. S.
Franklin County M. S.
Greene County M. S.
Huntington County M. S.
Indiana County M. S.
Jefferson County M. S.
Juniata County M. S.
Lackawanna County M. S.
Lancaster County M. S.
Lawrence County M. S.
Lebanon County M. S.
Lehigh County M. S.
Luzerne County M. S.
Lycoming County M. S.
McLean County M. S.
Mercer County M. S.
Mifflin County M. S.
Montour County M. S.
Montgomery County M. S.
Northampton County M. S.
Northumberland County M. S.
Perry County M. S.
Potter County M. S.
Philadelphia County M. S.
Schuylkill County M. S.
Snyder County M. S.
Somerset County M. S.
Susquehanna County M. S.
Tioga County M. S.
Venango County M. S.
Warren County M. S.
Washington County M. S.
Westmoreland County M. S.
York County M. S.

RHODE ISLAND.

Rhode Island State M. S.

SOUTH CAROLINA.

South Carolina State M. S.
Anderson County M. S.
Greenville County M. S.
Laurens County M. S.
Med. Soc. of S. Carolina.
Richland County M. S.
Sumter County M. S.
Union County M. S.

SOUTH DAKOTA.

South Dakota State M. S.
Minnehaha M. S.

TENNESSEE.

Tennessee State M. S.

TEXAS.

Texas State M. S.
Austin County M. S.
Austin Dist. M. S.
Brazos Valley M. A.
Central Texas M. S.
Cooke County M. S.
East Line M. A.
East Texas M. S.
Ellis County M. S.
Fannin County M. S.
Hill County M. S.
Houston Dist. M. S.
Johnson County M. S.
North Texas M. A.
Southeast Texas M. S.
South Collins and Rockwell Counties M. S.
South Texas M. A.
Terrell M. A.
Travis County M. S.
Waco M. S.
Western Texas M. A.
Williamson Bell Milan County M. S.

UTAH.

Utah State M. S.
Salt Lake County M. S.
Salt Lake Acad. Med.
Weber County M. S.[1]

VERMONT.

Vermont State M. S.

VIRGINIA.

Virginia State M. S.

WASHINGTON.

Washington State M. S.
Kings County M. S.
Pierce County M. S.
Spokane County M. S.
Thurston County M. S.
Whitman County M. S.

WEST VIRGINIA.

West Virginia State M. S.
Charleston M. and S.
Ohio County M. S.

WISCONSIN.

Wisconsin State M. S.
Wisconsin Central M. S.
Ashland County M. S.
Brainard County M. S.
Brown County M. S.
Central M. S.
Fox River Valley M. S.
Inter County M. S.
La Crosse County M. S.
Milwaukee M. S.
Northwest Wisconsin M. S.
Sheboygan County M. S.
Waukesha County M. S.

[1] The Weber County M. S. of which Dr. G. W. Baker is secretary.

AN EXPOSITION of what has been accomplished to date with the Roentgen ray is to be a feature of the German Congress of Surgery in April.

Selection.

Effects of Administration of Definite Mixtures.—Before the Royal Medical and Chirurgical Society (*British Med. Jour.*, February 18), Hewitt has presented his observations on the effects on the human being of definite mixtures of nitrous oxid and air and of nitrous oxid and oxygen. The investigation was based upon the following carefully-recorded and timed administrations: Pure nitrous oxid, 22 cases; nitrous oxid mixed with different percentages of air, 107 cases; nitrous oxid mixed with different percentages of oxygen, 102 cases; total, 231 cases. The author arrived at the following conclusions:

1. When pure nitrous oxid is administered to the human subject in such a manner that no free oxygen gains admission during the administration, certain phenomena arise, which for our present purposes may be regarded as being either *a*, phenomena of anesthesia or *b*, phenomena of asphyxia.

2. The anesthetic phenomena of nitrous oxid, although apparently very different from those of ether or chloroform, are in their essential features remarkably similar.

3. The most conspicuous of the asphyxial phenomena of pure nitrous oxid are *a*, embarrassed and deeply stertorous breathing, *b*, cyanosis, and *c*, anoxyemic convulsion. All these may be eliminated without interfering with the anesthetic effects of the gas by administering with it certain proportions of oxygen, either pure or as atmospheric gas.

4. There are other less obvious asphyxial phenomena—such as wide dilatation of the pupils, swelling of the tongue and adjacent structures, and rapid cardiac action—which, like the more important symptoms above referred to, may be prevented or modified by similar means.

5. Under the influence of pure nitrous oxid breathing becomes deeper and quicker than usual. At the end of from fifty five to sixty seconds its rhythm becomes altered either by *a*, obstructive stertor, *b*, anoxyemic convulsion attacking the respiratory muscles, or *c*, both conditions combined. If the administration be pushed far enough, breathing becomes arrested in one of these ways. Paralytic cessation of breathing is very rare, and when it occurs is dependent quite as much upon cerebral anemia from defective circulation as upon the presence of unoxygenated blood in the vessels supplying the respiratory centers.

6. The deep and obstructive stertor of pure nitrous oxid narcosis is not met with when employing mixtures containing moderate percentages of air or oxygen. With such mixtures only softly snoring breathing is produced. When the percentage of air or oxygen is considerable—30 per cent. air or 13 per cent. of oxygen—respiration becomes noiseless and free from all obstruction.

7. The most marked cyanosis is met with when very small percentages of air (3 to 6 per cent.) or oxygen (under 3 per cent.) are administered with nitrous oxid. With pure nitrous oxid cyanosis may not have time, as it were, to become pronounced, for the administration may be cut short by deep stertor. As the percentage of air or oxygen increases, cyanosis lessens, till with 30 per cent. of air it is very slight, and with 11 per cent. of oxygen it disappears altogether.

8. Anoxyemic convulsion, like cyanosis, is liable to be greater with small percentages of air or oxygen than with pure nitrous oxid itself, and for the reason just given. But as the percentages of air or oxygen increase the convulsion decreases, till with 30 per cent. of air and 6 per cent. of oxygen respectively it ceases to occur.

9. Reflex and excitement movements are most likely to arise either with pure nitrous oxid, or with nitrous oxid mixed with small percentages of air (3 to 7 per cent.), or with nitrous oxid mixed with considerable percentages of air (20 to 30 per cent.), or oxygen (10 to 20 per cent.). They are least likely to assert

themselves with mixtures containing moderate quantities (12 or 15 per cent.) of air, or moderate quantities (3 to 7 per cent.) of oxygen.

10. Phonated sounds are most common when nitrous oxid is administered with large percentages of air (12 to 30 per cent.) or oxygen 20 per cent.). When nitrous oxid is administered pure, or with small percentages of air (3 to 5 per cent.) they are met with to a moderate extent only. Phonation is least likely to arise with nitrous oxid and air mixtures when air is present to the extent of from 6 to 10 per cent., and with nitrous oxid and oxygen mixtures when oxygen is present to the extent of from 3 to 11 per cent.

11. The duration of available anesthesia after inhalation is found to be longest after the administration of mixtures containing from 3 to 11 per cent. of oxygen, the maximum duration having been attained with 7 per cent. mixtures. With nitrous oxid and air mixtures the resulting anesthesia is distinctly longer than with pure nitrous oxid, but the results are very uncertain in these cases. The shortest available anesthesia is recorded with nitrous oxid alone, and with nitrous oxid mixtures containing 30 per cent. of air.

12. In estimating the respective merits of the various mixtures used as anesthetic agents, the investigation shows that the best results were obtained with mixtures of nitrous oxid and oxygen; the next best with mixtures of nitrous oxid and air; and the worst with nitrous oxid free from air or oxygen. Air is not nearly so suitable as oxygen for eliminating the asphyxial factors of a pure nitrous oxid administration, owing to the large volume of useless nitrogen which must necessarily be inhaled. The nitrous oxid and air cases were, as compared with those of nitrous oxid and oxygen, far more uncertain in their course.

13. There is no one mixture of nitrous oxid with air or with oxygen which will successfully anesthetize every patient.

14. In order to obtain the best form of anesthesia, oxygen should be administered with nitrous oxid by means of a regulating apparatus, the percentage of the former gas being progressively increased from 2 per cent. or 3 per cent. at the commencement of the administration to 7, 8, 9 or 10 per cent. according to the circumstances of the case. The longer the administration lasts, the greater may be the percentage of oxygen admitted.

15. The next best results to those obtainable by means of a regulating apparatus for nitrous oxid and oxygen are to be secured by administering certain constant mixtures of these two gases. Mixtures containing 5, 6, or 7 per cent. of oxygen are the best for adult males; and mixtures containing 7, 8 or 9 per cent. are the best for females and children.

16. The next best results to those last mentioned are to be obtained by means of mixtures of nitrous oxid and air, from 14 to 18 per cent. of the latter being advisable in anesthetizing men, and from 18 to 22 per cent. in anesthetizing women and children.

17. Paul Bert, whose valuable researches upon the effects produced by the inhalation of nitrous oxid and oxygen are well known, regarded an increased atmospheric pressure as essential to the production of anesthesia by means of these gases. It is clear, however, from the foregoing investigation, that deep and satisfactory anesthesia, unaccompanied by any obvious asphyxial manifestations, may be secured, at ordinary pressures, by mixtures of nitrous oxid and oxygen containing even as much of the latter gas as is present in our atmosphere.

18. The last mentioned fact would seem at first sight to give a death blow to the asphyxial theory of nitrous oxid anesthesia—a theory which supposes that this gas produces its anesthesia by limiting or arresting normal oxidation processes within the central nervous system. But are we justified in assuming that because no obvious asphyxial manifestations make their appearance during the inhalation, no such interference with oxidation is taking place?

Practical Notes.

Local Treatment of Lupus with Creosote.—Applied after scarification of the skin, the great improvement in circumscribed lupus is sufficient to warrant further trials, although none of the three cases reported by Protopopow were completely cured. The unpleasant odor and somnolence caused by the creosote are the only disadvantages.—*Derm. Cbl.*, February.

Spasm of the Glottis.—Krause has found that excitation of the cerebral cortex near the prefrontal convulution produces spasm of the glottis. Excitation of the vasomotor center at the same time leads to cerebral anemia followed by generalized convulsions. Hugel has successfully treated six cases of reflex spasm of the glottis in infants, by section of the enlarged uvula.—*Munich Med. Woch.*, 1898, No. 44.

Orexin Base in Vomiting of Pregnancy.—F. Hermanni confirms the statements of Frommel and Rech in regard to the benefits of orexin base in the uncontrollable vomiting in pregnancy. He has administered it to nine patients at different stages of pregnancy and all were relieved at once and soon cured with two or three powders a day, thirty centigrams each.—*Therap. Monatsheft*, January.

Value of Injections of Salt Solution.—F. Macini of Parma has established the fact that besides the mechanic effect, directly increasing the blood pressure, altering the pulse, resp ration, respiration and the temperature, there is also a chemic effect, which explains to some extent the constant elevation of temperature and the alterations in the blood—at first diminishing the number of blood-corpuscles and amount of hemoglobin, and later increasing them even beyond the physiologic proportions.—*Clinica Chir.*, 1898, Nos. 2 to 4.

Glaucomatous Atrophy.—Galezowski does not consider glaucoma a serous choroiditis, like the Germans, but the result of obliteration of the lymph vessels, which may be total or partial, slow or rapid, determining the variety of the glaucoma. He describes a new form, recalling the atrophy of tubes with which it is frequently confounded, glaucomatous atrophy, which has none of the usual symptomatic excavation. For this form and also for simple glaucoma, iridectomy is entirely ineffectual. Repeated anterior sclerotomy is indicated in these cases.—*Rev. Gen. d'Ophth.*, January 31.

Diagnostic Value of the Diazo Reaction.—M. Michaelus confirms Ehrlich's statements in regard to the presence of the diazo reaction in the urine in typhus during the first five to eight days, vanishing later and reappearing in case of a relapse. If it persists longer, the prognosis is unfavorable. The same applies to measles and especially to tuberculosis. He even proposes to decide the question of sending a tuberculous subject to a sanatorium, by the absence of the diazo reaction. Baginsky considers it as important a clinical aid as the Widal test.—*Munich Med. Woch.*, February 7.

Treatment of Saturnine Encephalopathy.—Delbet, Tuffier and Goidin have established that in infections and certain intoxications artificial serum produces its effect through the intestines. This is especially the case in lead poisoning, and hence the first indication in saturnine encephalopathy is venesection followed by a saline injection, repeating if improvement is not evident, omitting the venesection if there is too much debility. The most threatening symptoms arrested, continue with the usual medication. Two convincing observations are related by Goidin in the *Jour. des Sci. Méd de Lille*, February 11.

Welander's Pillow Slip Treatment of Syphilis.—C. Stern of Düsseldorff reports most satisfactory results attained in over a hundred cases of syphilis in various stages, with Welander's bag of muslin or flannel worn flat over the back or front of the body (vide JOURNAL, XXX, p. 1306), rubbed every day with five to eight grams unguent. hydrarg. cin. The simplicity, cleanliness

and convenience of this method commend it, and the results are fully equal to those of inunctions and injections. As inhalation is a factor in the effect, the patient must himself rub the salve into the cloth, taking ten minutes for the task and bending down over it.—*Munich Med. Woch.*, February 7.

Silver Wire and Electricity in Aneurysm.—Corson (*Phil. Med. Jour.*, March 4) reports a case of thoracic aneurysm treated by the introduction of silver wire with electricity, after the method of Stewart of Philadelphia. He believes that in the case reported, owing to the advanced state of the lesion, it is doubtful whether a cure was possible under any conditions, but the case treated and the autopsy go to show that quick coagulation of blood follows the introduction of the current of electricity, with improvement in the radial pulse, relief of dyspnea for a few hours following treatment, and but little shock or depression to the patient.

Malarial Hemorrhage.—The *Revista Méd. de Bogotá*, Colombia (xxi, No. 234), contains four observations related by P. Q. Romero of Barranquilla, in which severe hemorrhage subsided at once upon the administration of quinin. Each case deceptively simulated another affection. In one there was profuse metrorrhagia, fever and debility, suggesting acute metritis, but the patient recovered at once with quinin, and another attack a few months later yielded to it in the same way. The second case simulated pneumonia, with fever and blood-streaked sputa, but all the symptoms subsided with quinin. The third case with excessive hemoptysis, fever, night-sweats, cough and emaciation, was supposed to be tuberculosis. Quinin arrested the entire syndrome, and by the end of the week the patient was entirely restored to health, with no recurrence of any of the symptoms to date. The fourth observation was a case of sudden, severe, rebellious epistaxis which he treated with quinin instead of tamponning, with almost immediate success. He always combines a few brief cold baths with the quinin treatment.

Strictures of Esophagus and Cardia.—Lambotte reviews the treatment possible with cancerous neoplasms of the esophagus: catheterism, intubation and gastrostomy, observing that the former is not a prudent measure, as it is painful, ineffective, and may result in perforation any moment. Instead of the olive-tipped catheter, he uses a metal ovoid tip in which a screw-thread has been cut, the edges rounded. Such a catheter can be inserted by rotation of the stem without pressure. Intubation is more rational, a metal or rubber sound, large enough to allow the passage of food, is introduced from above with esophageal forceps, or the stomach is opened and the sound pulled down and fastened. In case gastrostomy is performed, the opening into the stomach must be very small, not larger than a match. After the stomach has been fastened to the abdominal wall the trocar is inserted obliquely at the highest point of the projection. The operation thus performed, there is no escape of liquids from the stomach, while it permits nutritive injections, for which his formula is: bouillon 125 gm., sugar 20 to 25 gm., peptones 2 to 3 spoonfuls. He insists further upon the necessity of supplying the full amount of water required by the organism, in drinks, rectal injections and injections of serum.—*Presse Méd.*, February 11.

Differentiation of Typhus in Twenty Hours.—M. Piorkowski has succeeded in securing a medium on which the bacillus typhi develops so rapidly that the diagnosis can be determined in twenty hours. It consists of normal urine, specific gravity 1020, kept for two or three days, during which it acquires an alkaline reaction, mixed with .5 per cent. peptone and 3.3 per cent. gelatin, boiled an hour in the water-bath and filtered without heat, which is easily accomplished. It is then transferred to test-tubes and sterilized at 100 C. for fifteen minutes, sterilizing again the next day for ten minutes. Two loops of typhus feces are used for the first dilution, four for the second and six to eight for the third tube. After the pouring out and the solidification of the gelatin, the plates must be kept at a temperature of 21 to 22 degrees C., as the typhus colonies do not develop typically at a lower temperature. In twenty hours the small, transparent typhus colonies with their spreading fibers can be distinguished on the first plate among the round, yellow-brown, sharp-edged colonies of the bacillus coli. The colonies on the second plate, in thirty-six hours, are larger, round, yellowish and surrounded by a tangle of fibers. Bacilli were found in some cases three days after the subsidence of the fever, and in one, the sixth day of the disease, frequently while the Widal test is still uncertain.—*Deutsche Med. Woch.*, February 16.

Results of Cesarean Section.—Recovery after Cesarean section is frequently disturbed by the suppurating out of the threads used in suturing the uterus, and by the formation of adherences between the uterus and the abdominal wall, which may interfere with the menses and subsequent pregnancy. In one case observed by G. Abel, at the Leipsic clinic, the posterior wall of the uterus tore in the sixth month of pregnancy, on account of adherences, and two similar cases are on record. He has traced fifty-three cases in which Cesarean section was performed, for an average of six and a half years. In eight cases hernia occurred in the laparotomy wound. The operation was performed twice in eleven cases and three times in four. Chrobak has also recently reported a third successful Cesarean section on a woman with a very contracted pelvis. Abel states that repetition does not enhance the dangers of the operation nor diminish the subsequent working capacity, which he considers decides in the negative the question of the advisability of artificially producing sterility in cases of contracted pelvis. Zweifel has a record of sixty-seven Cesarean sections with one death from pre-existing sepsis. He has not found the Fritsch superior to the sagittal fundal incision, while it has the disadvantage of being nearer to the large vessels at the insertion of the tubes. In suturing the uterus he now takes two or three stitches with fine silk, completing the suture with catgut; no threads have suppurated out since he adopted this method. The "Cesar" children have all thrived well, mentally and physically.—*Munich Med. Woch.*, February 7.

Ultimate Results of Symphyseotomy.—Zweifel has performed symphyseotomy thirty-four times, with no death, and G. Abel has followed twenty-five symphyseotomies at the Leipsic clinic on one patient performed twice—for an average of three and a half years, and reports unexpectedly favorable results. All the women were fully restored to their former working capacity. Pregnancy has occurred in fourteen and proceeded without accident. In seven cases all the children born since (eleven) have been delivered spontaneously, showing that symphyseotomy evidently produces conditions favorable to future deliveries. In a third of the cases the symphysis was distinctly enlarged, with a layer of scar tissue. There was no excessive stretching of the scar *in partu*, nor interference with walking later nor with the solidity of the pelvis. The more contracted the pelvis, the longer the convalescence after symphyseotomy, which varied from five weeks to ten months before the ability to walk normally was fully restored. In every case the symphysis retained a mobility of .5 to .75 cm., which proved no inconvenience and had no effect upon the rapidity of the recovery of the working capacity, which depended more upon the smooth healing of the soft parts. In the less successful cases there was cicatricial contraction of the anterior vaginal wall, liable to interfere with the emission of urine and produce retroflexio uteri and pain. Zweifel emphasizes the fact that symphyseotomy only prepares the way for spontaneous delivery; the results are bad if it is found necessary to terminate the birth artificially. Consequently, he prefers Cesarean section if the labor pains are not vigorous.—*Munich Med. Woch.*, February 7.

THE
Journal of the American Medical Association
PUBLISHED WEEKLY.

SUBSCRIPTION PRICE, INCLUDING POSTAGE:

Per Annum, in Advance $5.00
Foreign Postage 2.00
Single Copies . . . . . 10 Cents

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No. 61 Market Street, Chicago, Illinois.

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SATURDAY, MARCH 18, 1899.

THE PRESENCE OF THE BACILLUS TYPHOSUS IN THE URINE IN TYPHOID FEVER.

It has recently been established that the typhoid bacillus may occur in enormous numbers in the urine, in the course of typhoid fever. RICHARDSON[1] of Boston, showed that in 38 cases of typhoid fever, the bacilli were present in the urine of 9, always in large numbers and in practically pure cultures; the bacilli appeared first in the later stages of the disease, and persisted in most of the cases far into convalescence. The bacilli were nearly always associated with albuminuria and casts. HORTON SMITH[2] examined the urine in 7 typhoid patients, with 3 positive results; he observed that the organisms may be so numerous that the urine becomes distinctly turbid on that account. PETRUSCHKY[3] examined the urine in 50 cases of typhoid fever, with 3 positive results. The first case retained the bacilli in the urine for two months after the temperature had become normal: the second showed bacilli present for a month and a half after the subsidence of the fever, while in the third case the organisms had disappeared eight days after the beginning of convalescence. He calculated that in one case a single cubic centimeter of the urine contained 170,000,000 typhoid bacilli.

RICHARDSON[4] refers to a remarkable case, mentioned by Dr. CUSHING of Baltimore, of a man who had an attack of typhoid fever five years before; ever since then there had been trouble with the urine, and investigation showed that there was cystitis present, and the typhoid bacillus was obtained in pure culture from the urine. In connection with this may be mentioned the case recently described by HOUSTON[5] of cystitis of three years' standing, in which the typhoid bacillus was present in the urine. This case is especially interesting because of the presence of a typhoid infection without the usual symptom of typhoid fever ever having been recognized. From the history it seems very probable that the typhoid bacillus had been present in the urine from the beginning of the cystitis. The patient's blood yielded a well-marked agglutinating reaction. This case seems to show that the bacillus may occur in the urine and possibly also in the tissues, the blood serum giving the characteristic reaction, and yet without any clinically recognized typhoid fever.

Referring again to the presence of the typhoid bacillus in the urine in typhoid fever, it is quite plain, in the light of the evidence cited, that the supervision of typhoid patients has heretofore been very inadequate indeed. The urine as well as the stools of typhoid patients must be disinfected, and, as RICHARDSON emphasizes, the necessity of such disinfection and supervision does not cease with the subsidence of the fever, but must be kept up sometimes, it would seem, for weeks, sometimes for years.

In his second article on this subject RICHARDSON[6] dwells particularly upon the value of urotropin as a urinary antiseptic, with especial reference to its use in typhoid fever. Irrigation, with the necessary catheterization, is not a method of treatment that would recommend itself in case internal administration of certain urinary antiseptics should be found to give the desired results. The number of cases of typhoid fever comprised in RICHARDSON'S present report is 66, and of these 14 showed the presence of bacilli in the urine. Eleven of these were submitted to treatment, with the following results: Two cases received salol, and in one instance the bacilli disappeared. In one case the salol did not have any effect on the bacilli, and urotropin was then substituted for the salol, followed by the prompt disappearance of the organisms. Nine cases were treated with urotropin, and in every one the bacilli promptly disappeared. This favorable result was accomplished in 8 out of the 9 cases by the use of 60 grains or less of the drug; one case required 200 grains to remove the organisms. A number of the cases (7) were followed for from seven to sixty-six days after the administration of the urotropin was stopped, and the bacilli did not reappear; so that it seems fair to assume that the removal of the typhoid organisms was permanent.

Freshly passed turbid urine, if acid in reaction, should always be regarded with suspicion when it concerns typhoid patients or convalescents. When such urine, on microscopic examination, shows the

[1] Journal of Exp. Med., 1898, vol. iii.
[2] Trans. Medical and Surgical Society of London, 1897.
[3] Centralbl. f. Bakt, xxiii, 1898.
[4] Journal of Exp. Med., 1899, vol. iv.
[5] British Medical Journal, Jan. 14, 1899.
[6] Journal of Exp. Med., 1899, Vol. iv.

presence of bacilli it is quite probable they are the typhoid bacilli, and the results of the cultures can thus be foretold.

Urotropin, introduced by NICOLAIER in 1894, is formed by the action of ammonia on formaldehyde. It appears in the urine as early as fifteen minutes after administration, and may be demonstrated for twelve hours or longer after a single dose of 7.5 grains. ELLIOT, who praises this drug highly as efficient in cystitis, observed no ill effects from its use. In RICHARDSON'S cases urotropin did not seem to cause any special changes in the urine.

From the foregoing considerations it may be concluded that, inasmuch as the urine of typhoid fever patients may contain typhoid bacilli in enormous numbers for weeks, months, and even years, and thus constitute a grave danger not only to the patients but also to the public health, the necessity for rigid disinfection and supervision of their urine is at once apparent. It would, therefore, seem advisable that, as it is impossible without bacteriologic examination to determine whether or not typhoid bacilli are present in a given urine, all typhoid patients should receive urotropin (30 grains daily for ten days) beginning as convalescence is approached. In the struggle in which the profession of the United States is engaged against typhoid fever, such observations as are here referred to are certainly of the greatest importance. They point the way along which the practicing physician may do his full duty in his attempts to arrest the spread of the disease when once established.

PHYSICIAN TO THE POPE.

Physicians to the Pope occupy an exceedingly difficult official position, requiring great dexterity, diplomacy and sagacity. The physicians to crowned heads have in comparison a comparatively easy position, the varied interests involved in the Pope's health lead to constant examination of the physician and demand from him the highest judgment and diplomacy. The vatican, moreover, contains a large, inquisitive population whose hopes vary with the health of the Pope. The salary of the position has been the same, it is said, for centuries—$600. This salary, relatively large centuries ago, considering the purchasing power of money, is now exceedingly unremunerative for the services rendered.

Probably the greatest medical man who occupied the position of physician to the Pope was the famed PAUL ZACCHIAS, who published what was the greatest contribution made to seventeenth century jurisprudence: his famous "Questions Medico-Legales." ZACCHIAS was not a bookworm and collector of what had been done before him, but an accomplished medical practitioner and proto-medicus, i.e., chief physician to the Pope. As such he was the medical adjunct of the highest ecclesiastic court. Before this tribunal were brought all unusually difficult or doubtful legal questions, and, during the many years that he sat in its chambers, ZACCHIAS gained an experience not only as medical adviser but as legal analyst and judicial critic such as no other member of our profession is likely to have an opportunity of acquiring. Nor was he a one-sided medical jurist, taking an interest only in the abstruse details of the subject to which his great work was devoted. He was the author of several poems of great merit, and was an accomplished student of *belles-lettres* and history. His great work in many respects is a connecting link between the medical jurisprudence of the Romans and that of modern continental codes of law. In some respects it is in remarkable accord with the most advanced teachings of today. The chapter on "Survivorship" could scarcely be improved by modern writers, allowing for the additional experience and study of two and a half centuries which have since elapsed. As a work of reference it occupies the very highest position in all fields of forensic medicine.

That, with these numerous excellencies, a work which was written at the dawn of a period which followed the dark age of science should share the imperfections of the time in which it was written is but natural. When English judges wrote treatises to prove the existence of witches, when judicial decisions teemed with reasoning which would be repudiated by a pupil in the public schools of to-day, ZACCHIAS can hardly be censured because he gravely argued that minors were proper subjects to be put to torture. When it is remembered that in an early edition of an American medical jurisprudence, language is contained which suggests that the authors of that treatise admitted the possibility of demoniac possession, ZACCHIAS can not be reproached for devoting entire paragraphs to this subject. He was certainly one of the best thinkers of his day, and the picture extant of him suggests that he must have been the possessor of a dispassionate and profound mind. His services to medical jurisprudence may be summed up as consisting in the collection of a vast number of precedents and medicolegal data which, but for him, might have been scattered and lost; in mediating the application of the Roman law to medical jurisprudence in consonance with advancing medical science, and, above all, in establishing a juster criterion of legal irresponsibility in the case of the insane than that in use before his day. With the downfall of the temporal power in 1871, the necessity for the forensic services of the Pope's physician passed away.

Dr. GUISEPPE LAPPONI, the present physician to the Pope, has long been known to the reading medical profession through his contributions to obstetric and internal medicine. One contribution, which attracted widespread attention, nearly two decades ago, was a discussion of the question of the possibility of puerperal infection of the male, at which time the influ-

ence of the streptococcus was not demonstrated. To this question Dr. LAPPONI contributed (*Giornale Med. e la Riv. Clin.*, 1880) a very striking case, which, with the present knowledge of the rôle of the streptococcus in both puerperal fever and erysipelas, becomes readily comprehensible. At the time of its publication, however, the position taken by Dr. LAPPONI as to the communicability of the puerperal infection to the male was severely criticised.

From his election as Pope, until 1888, LEO XIII had remained under the care of a surgeon. As his lately translated poem on "Health" shows, he had been exceedingly careful as to his diet and very moderate in the use of wine, while at the same time given to pedestrianism. For his years, he has enjoyed, in consequence, excellent health. About 1888 symptoms became demonstrable which led to Father KNEIPP being called in to try his system on the Pope. As LEO XIII is exceedingly sceptic in regard to medical irregularities when applied to himself, KNEIPP failed completely. Dr. LAPPONI, then residing at Osimo on the Adriatic, was called in by the surgeon and came to Rome every week to visit the Pope. He later became resident nearer the Vatican, with which he is connected by telephone. He is the only person who has ever succeeded in inducing Pope LEO XIII to give up habits ingrained by a lifetime's practice, but which have become dangerous because of advancing age. Dr. LAPPONI plays no part in the web of Vatican politics but confines himself entirely to his sufficiently arduous medical duties.

RAISING THE DEAD.

The newspapers are commenting at length upon a reported case of Professor TUFFIER in which it is said he restored a dead man to life by opening the thorax and manipulating the heart. The report is naturally more startling to the lay mind than to the medical reader, for we well know that until certain chemic changes take place in vital tissues, they are not absolutely and functionally dead beyond the possibility of resuscitation. Many physicians can recall cases of revival after apparent dissolution, by continued artificial respiration, injection of stimulants or saline solutions, or some other measure of the kind Professor TUFFIER'S case is, nevertheless, if correctly reported, a striking one, and may rank as a justifiable physiologic experiment on the human subject. That it means any actually important addition to our means of permanently saving human life, is not yet, by any means, demonstrated, but it is easy to see a utility in even a temporary restoration in certain cases, although it may require mutilation, as in the instance reported.

VITAL STATISTICS OF ONTARIO.

According to the Provincial Board of Health, Ontario has the smallest death-rate of any part of the world, the total deaths as reported being only 27,633 to an estimated population of 2,283,182, Dec. 31, 1897, or about twelve per thousand. This, however, could probably be matched by some of the States of our Union with equal proportions of urban and rural population. The birth-rate of the province is also low, as is usual with a low death-rate, it being only about twenty-one per thousand, or a total of 47,323. The registrar estimates, however, that in the cities not nearly all the births have been reported and, this being so, the ratio may really be somewhat higher. It is easy to see by these figures why Canada does not increase more rapidly in population; out of 27,209 immigrants only a little over 19,000 came with the intention of settling, and how many of these leaked over the border is not stated. Add to this possible contingent the emigration of native Canadians, and the population ought to be pretty nearly in a static condition.

THE ANTIVACCINATION FOLLY.

The antivaccination craze has broken out in various parts of the country, but the necessarily local character of legislation in the United States will prevent its taking on a national importance as in England. The antivaccinationists are, however, as virulent and unscrupulous as they can be anywhere, as is shown by the following quotation from an Indiana paper, taken from an antivaccination circular: "The board of health advise all to be vaccinated, but they fail to tell what vaccination is. The reason they do not tell is because they dare not. Vaccination is the inoculation of a healthy person with the putrid pus from a festering sore—of a syphilitic nature—on a diseased animal." It is not a credit to any community that statements like the above should be circulated and receive credence among its members, but there will always be some everywhere possessed of the qualities against which even the gods strive in vain.

A POSSIBLE GERM OF SMALLPOX.

The *Indiana Medical Journal* for March states that Drs. W. T. S. DODDS and THEODORE POTTER of the Medical College of Indiana, have been utilizing the present (or recent) smallpox excitement in Indianapolis to try to find the germ of the disorder. As it says, "their findings are, at least, interesting, although this must be an old and well-studied problem in the great pathologic laboratories of the medical colleges, both at home and abroad." They report finding a constant bacillus in the vaccin vesicles of the seventh and eighth days, which grows in pure cultures and is not morphologically conformable with any other form known to them and requires special staining methods. They have also found, it is stated, an apparently identic bacillus in smallpox pustules, reacting to the same stains and morphologically the same, also similar to a bacillus grown from vaccin lymph taken from hermetically sealed tubes. They have not yet inoculated any unvaccinated children from the cultures, and presumably their research is still progressing and incomplete. It will be of interest to receive the published report of their completed investigation.

ANTIDEGENERACY LEGISLATION.

That newly organized communities are more liable to attempt experiments in legislation than are older and more settled ones, has long been a matter of observation. In North Dakota a bill is stated to have passed, the idea of which is to prevent the spread of

certain diseases that are supposed to be hereditary, by putting a restriction upon marriage. The law provides for a commission composed of three competent physicians, to which the persons intending marriage shall apply for examination, to determine whether such person is free from disabilities named in the law, such as dipsomania, hereditary insanity, and tuberculosis, before receiving the necessary license. It will be interesting to observe the history of such measures, provided they are so far in accordance with public sentiment as to permit their enforcement. It is hardly to be expected that these disorders will be immediately stamped out, and the difficulty of enforcing such isolated requirements, with only an imaginary line separating other States which do not possess them, thus favoring their evasion, is obvious. The fact that laws existing in some States against marriage of near relations are thus evaded is sufficient evidence of the inefficiency of such regulations.

SURGEON-GENERAL STERNBERG: TWO OPINIONS.

Mr. WILLIAM E. CURTIS, in the *Chicago Record* of March 4, commenting, disparagingly, on the method of promotion in the army by seniority, rather than by merit, writes: "The experience of the medical department is a good illustration. Dr. STERNBERG, surgeon-general of the army, is an eminent scientist. In his particular line he had a world-wide reputation, but he has no more executive ability than a child, and his warmest admirer would never trust him to transact a matter of business. Nevertheless, because he is the senior surgeon he is placed in charge of the medical corps and has enormous business responsibilities which he is not qualified to assume. It is no discredit to Dr. STERNBERG that his talents do not run in a particular way. General GRANT was a great soldier, but an utter failure in business, and it is very likely that the foremost business man in this country would be an equal failure if he undertook the command of an army; and neither General GRANT nor JOHN ROCKEFELLER nor MARSHALL FIELD could compare with Dr. STERNBERG as a microscopist"

In the page devoted to "Men and Women of the Hour," in the *Philadelphia Evening Post* of March 4, same date as the above, is the following, under the heading "Sternberg the Man of Action:"

"In the recent as in the Civil War, his mind and time were taken up with the duties before him. He had no opportunity, if he had the inclination, to listen to the praise of his contemporaries or the screams of disapproval of his policy from ignorant laymen. Steadfastly and conscientiously he conducted the business of his department. Just how much sickness and misery were escaped by his wise administration will be shown when prejudice and partisans are silent and the history of the war is accurately written. It is doubtful if any one in his profession knows more about hygiene, quarantine, sanitary science, antisepsis, bacteriology and preventive medicines than General STERNBERG. But he has more than professional erudition to recommend him for his high office; he is the most practical of men, quick to see and quick to act; he is not handicapped by tradition, but belongs to that school which does not accept a thing until its truth has been demonstrated, nor reject it until it has been proven worthless; nothing in connection with his department is deemed unworthy his attention, and his zeal is unbounded."

When all the criticism, faultfinding, investigations, and charges and counter-charges are ended, and the management of the affairs of the late war can be examined with a mind free from partisanship, prejudice, or personal jealousy, the medical department—represented by the junior ex-president of the AMERICAN MEDICAL ASSOCIATION—will stand forth without a blemish, and without the necessity of whitewash to cover up the slightest particle of stain, real or imaginary.

TYPHOID FEVER IN PHILADELPHIA.

If modern medical science has made one fact clearer than any other, it is that typhoid fever is a preventable disease. Rarely does the transmission take place through any other channel than water used for various domestic purposes, so that the insurance of a pure and uncontaminated water-supply means a reduction to the minimum in the prevalence of and mortality from typhoid fever. Of all the various means that have been proposed to attain this desirable end, none has proved so efficient as filtration. From whatever source water for domestic purposes is obtained, it will always be susceptible of contamination before it is delivered to consumers, so that in any event filtration will finally be necessary. Theoretic considerations alone are no longer needed. Philadelphia has long been known for its bad water-supply and its correspondingly high morbidity and mortality-rate from typhoid fever. The water for the city is derived in part from the Delaware and in part from the Schuylkill, into both which rivers sewage and the refuse from mills and factories are poured without serious let or hindrance. When the supply is adequate, the water is pumped into reservoirs, where sedimentation of its grosser impurities can take place. In times of need and under some other conditions the water is delivered by direct pumpage into the supply pipes. For the year 1898 there were reported to the Philadelphia Board of Health in the neighborhood of 5000 cases of typhoid fever, and about 600 deaths from the same cause, from which the money loss alone has been estimated at more than a million and a half dollars. The present year seems to have started out to break even this high record, and with marked indications of success. For the ten weeks of 1899 there have been reported to the Board of Health 3434 cases of typhoid and 360 deaths, and for the week ending March 11, respectively 419 cases and 39 deaths. This is discreditable to one of the greatest and most typic American cities. The City Fathers have not agreed, evidently, that filtration is the best means of securing a pure water-supply while those who have so concluded have not agreed upon the best plan of filtration. There is a lingering suspicion in the minds of many that the great obstacle is the desire on the part of a number of possibly eminently respectable capitalists to secure control of the water-supply, as others have already secured control of the gas-supply, and realize a generous profit from the traffic in one of nature's commodities.

Regulation of the Sale of Thyroid Products.—The Paris Academy of Medicine has formally protested against the indiscriminate sale of thyroid products, and urges that they be included in the list of dangerous remedies only to be obtained on a physician's prescription, renewed at each application.—*Bull.*, January 24 (Vide JOURNAL, p. 258).

Medical News.

PROFESSOR STRUMPELL of Leipsic has just completed his fifty-fifth year of uninterrupted teaching.

THE BIRMINGHAM (Ala.) MEDICAL COLLEGE recently suffered several hundred dollars damage by fire.

DR. NICHOLAS SENN addressed the Men's Club of the Fourth Presbyterian Church, Chicago, recently, taking for his subject "The Thunderstorm of Santiago."

DR. JOHN B. DEAVER, Philadelphia, it is stated, has resigned from the faculty of the University of Pennsylvania. Dr. Deaver has been assistant professor of applied anatomy at the university for some years.

THE MEDICAL PRACTICE bill referred to in the last number of the JOURNAL, p. 562, and the bill giving the Secretary of State of Illinois power to revoke charters of fraudulent diploma-conferring institutions, was favorably reported by the Senate Committee, March 14.

OTHERS' VIEWS of happenings in the medical work are interestingly instanced in the following from the *Paris Journal de Méd.*: "The Faculty of Medicine at Chicago has suspended Professor Wiggin on account of the raised scalpels of the thirty female students who attended his lectures. They accuse him of indelicate language and the remark that 'woman is nothing but a dyspeptic owl.'"

IT IS A PITY that even the higher courts sometimes fail to properly grasp sanitary truths. A recent decision, as reported in the daily press, is in evidence of this unfortunate fact. A compulsory local vaccination regulation has been made invalid on the ground that boards of education and boards of health cannot compel vaccination except when absolutely necessary to protect health. Does this mean that the supreme court and not the board of health is to judge as to the absolute necessity?

Dr. EDMUND SOUCHON of New Orleans, La., president of the Louisiana State Board of Health, and Dr. Quitman Kohnke, president of the New Orleans Board of Health, according to press dispatches of March 13, have been served with bench warrants, commanding that they appear in court at Clinton, La., to answer to the charge of manslaughter before the district court at Clinton. The charge is based upon the alleged concealment of the existence of yellow fever in New Orleans last summer, as through the alleged concealment, a citizen of East Feliciana Parish contracted the fever in New Orleans and died after returning to his home. The outcome of this will be watched with interest.

SOME LITTLE time ago the *New York Medical Journal*, with the worthy motive of improving the Latinity of some of the medical literature of the day, asked in a minor editorial paragraph to what language the word "*orem*" belonged, simply as a criticism of what is a too common and presumably inadvertent error. Instead, however, of its being simply accepted as such, the note seems to have called out an exhibition of classic non-erudition, which is more painful to us, inasmuch as it has been taken up editorially by the *British Medical Journal*. When a Boston correspondent, however, regrets the frequency of the use of "*per os*" in the medical journals of the regions south and west of New England, we have to doubly blush.

AN ANTISEPTIC BIBLE is a new idea. The *British Medical Journal* states that Americans, who are nothing if not inventive, have endeavored to reconcile the claims of hygienic science with the sanctity of the oath by making the ritual of swearing aseptic. The Court of Special Sessions of New York has provided a Bible with celluloid covers for witnesses to kiss when they take the oath. After each "kissing" an officer of the court sponges the cover, and at the close of each day the sacred volume is washed in a solution of carbolic acid. Whether this statement of our English contemporary is correct or not we can not tell, but if so it only goes to prove the truthfulness of the motto which says that "cleanliness is next to Godliness."

OMISSIONS in a recent editorial in the JOURNAL A. M. A., on the "Anomalies of English Medical Degrees" (p. 497), are criticized in the *N. Y. Med. Jour.* of March 11. We accept the correction but, as often happens, the critic is also slightly incorrect. There is an L. R. C. S., degree, but it does not appear to be much in demand, judging from Kelly's London Medical Directory. There are also various other kinds of licentiates, but they seem generally to like to supplement their license with an M.R.C.S. or L.R.C.P., or some other more popular qualification. There is also an M.R.C.P. (Edinburgh), and it would appear that the universities are not alone entitled to give the M.D., for if we are not mistaken there was a prominent physician died a few years ago who derived the degree from the Archbishop of Caterbury. It is not remarkable, however, that mistakes should occur in any attempted statement of British medical qualifications, considering the complexity of the subject.

THE HOUSE OF COMMONS, according to a London cable of March 11, has voted an appropriation for a London school of tropical medicine. The institution will be connected with the Dreadnaught Hospital at the Royal Albert docks in London. The appropriation was secured through Mr. Chamberlain, whose idea is that physicians who intend to go out to West Africa should take several months' clinical and practical training in this school in the treatment of diseases peculiar to the tropics. Not only physicians but nurses will be admitted. The expense will not be fully met by the grant, but Mr. Chamberlain has enough guaranteed by private subscription to carry the scheme along successfully. He sees no reason why what has been so effectively done in the treatment of disease at Hongkong and Calcutta should not be repeated on the Niger and the Congo. He says it is no longer necessary to regard West Africa as the white man's grave.

A PROPOSITION is now being discussed in Ohio to establish a medical department in the State University, and the homeopathic physicians are urging their claim for representation. Their idea is to have a single course for the first two years, after which the homeopathic school would be separate, thus making the school of practice elective in the junior and senior years. This is well enough for the first two years, but why the rest? At the present day, when successful homeopathic practitioners (so-called) can

not be distinguished in their methods from those of the regular profession, and when leading lights in that school are educating their sons as regular physicians, and others are openly admitting their desire to throw off the garb of sectarianism, would it not be better for them in every respect to make the special homeopathic therapeutics a purely elective post-graduate course to be taken up by those who desire it? A mixed school is not specially favorable to homeopathy, as shown by Michigan experience. "Christian Science" is rapidly displacing homeopathy as a cult among the laity, and the really best defense of the practitioners of that school will be to drop pseudo-scientific professions and fall into line with regular scientific medicine. Why not give the students a chance instead of leading them off into by-ways after two terms of the course.

Correspondence.

Practical Municipal Sanitation.

NEW YORK CITY, March 1, 1899.

To the Editor:—The twentieth century promises to be an eminently practical age. Theorists, dreamers and blatants bawling reform are giving place to the doers of good, the active workers in the ranks of humanitarians. The gospel of health, mental and physical, spread by practical enthusiasts, gives greater reason to hope for the civilization of the heathen than the preaching by fanatic zealots, who have only succeeded in opening the gate to their syphilization and tuberculization. The ardent missionary men and women who have labored to clothe naked savages in red flannel petticoats and thereby taught them, by studiously hiding their sexual organs, to give them a prominence that had never occurred to their virginal minds, when a surf bath and a fresh coating of cocoanut oil were their daily toilet, have wasted an immense amount of energy, that, directed to the betterment of the really unclean and benighted savages of our own great cities, would have enormously reduced their sick- and death rates.

In illustration of this statement is the praiseworthy effort of the young lady, the daughter of a clergyman, who has been the successful inaugurator of the system of cheap public baths established in Philadelphia under the direction of the Public Baths Association of that city. It is within bounds to claim that the good already accomplished by this one association in proclaiming the gospel of cleanliness, which is real godliness, in that city since its inauguration, has exceeded any that has been done in any one South Sea island by any missionary body that has labored as many years as it has months. On the other hand, note the frightful ravages from syphilis and phthisis, which, of course, without their connivance, have followed in their train and are ending in the extermination of these races; credit the few survivors with distorted and repellent misconceptions of the Christian faith and estimate the pecuniary outlay in this direction: in the other, see what a few, a very few, thousand dollars have accomplished in a neighborhood of densely populated, degraded barbaric filth. The association began by purchasing land in the heart of the vilest quarter of the city, where ignorance, crime, dirt, disease, degradation, hunger, squalor, misery, rags and vermin prevailed—conditions unknown to the innocent, happy, naked, oily-skinned, banana and breadfruit fed Oceanican, who practiced all the tenets of the Christian faith though ignorant of its doctrines, while the denizens of this plague-spot in a Christian city practiced more of them and only knew the holy names of that faith as convenient oaths and blasphemous expressions of bestiality. The institution is now in successful operation. Men, women and children, for five cents enjoy, many for the first time in their lives, the luxury of a clean skin, while tickets are sold to the philanthropic and given by them to the indigent who can not buy them and who can use them for this purpose only. Already the locality has assumed a different character and the wisdom of selecting such a site rather than the customary bathing pools on the water front has been justified. The baths, with two or three exceptions, are of the overhead-spray type, the water falling in a shower and running off as it leaves the body, a few tubs only being provided for very old and feeble bathers.

Municipal bath-houses and laundries on an elaborate scale have received a large share of attention for a long time from town officials in England, the first being said to have been established in London in 1844. In 1846, Parliament passed the first baths and wash-house act. Today, according to Dr. Maltbie, of the sixty-five county boroughs with over 50,000 population, only seven do not have baths. In London alone there are more than thirty establishments. Manchester has nine, Liverpool eight, Glasgow seven, Newcastle six, Birmingham five, Bristol and Salford four each. Public bath-houses did not appear in Germany until after the movement in England, a bath and wash-house after the British model having been opened in Hamburg in 1855. Today, Maltbie states in his admirable compendium on "Municipal Affairs," there are municipal bath-houses in over forty of the fifty five German cities of 50,000 population, including thirteen of the fifteen cities with over 150,000. Municipal bath-houses are much less numerous in France than in Great Britain or even Germany. Several public bathing establishments have been erected in Paris in addition to the swimming baths on the Seine. Vienna has ten public baths established in different parts of the city by the municipal authorities, and other European cities are gradually instituting them. In South America Maltbie states, municipal baths are reported only in the city of Buenos Ayres, and it is only thirty years since Boston established the first municipal summer baths in America. Until recently, when charitable associations have taken the matter in hand, this important municipal provision scarcely went further than the erection and maintenance of summer swimming pools in the great cities; and baths after the British models have only been instituted in the United States within the present decade. The first was erected by the city of Yonkers, N. Y. In 1894, Chicago opened the Carter Harrison Bath. Two years later Boston made public the baths at the Charles Bank gymnasium and commenced the erection of new bath-houses. In 1897, Buffalo erected public spray baths and Brookline, Mass., a fully equipped bathing establishment. In 1898, municipal baths were opened in Providence and Worcester. The most important municipal baths are those in Boston, where there are twenty-five establishments with an aggregate attendance in 1898 of 1,915,000. Other notable baths are the People's Baths of the New York Association for improving the condition of the poor located at Center Market Place, the Baron de Hirsch Fund Baths of New York City and the latest establishment of the Public Baths Association of Philadelphia.

The Maryland Public Health Association, at the instance of its president, the late Dr. George H. Rohé, made this matter of public baths the exclusive topic of its meeting at Baltimore last November, with the object of instituting a similar enterprise in Baltimore. Efforts in this direction can not be too highly commended. Public health associations really attain their ends by work of this sort. Sanitarians may despair if their accomplishments are to be proportioned solely by the amount of paper and ink expended. Unsanitary housekeepers, dyspepsia engendering cooks and health squandering men and women form the bulk of our populations despite health primers cooking manuals, and essays on wholesome food and pure

wal[illegible] That the use of English, pure and undefiled, is not uni[illegible]al among children educated in the public schools is evident to those who listen to the barbaric language of these same youths in street-cars and other public places, as soon as they are released from the tutelary bondage of their school teacher. "She aint got none; it aint hisn; I didn't get no invite and I couldn't have went nohow; do set down." Their double negatives and disagreeing verbs and nominatives belong to their surroundings; and elaborate injunctions to care for their teeth, their skins and their stomachs will be no better heeded. But, when the violation of a health ordinance costs the violator five dollars, he will hesitate to throw his refuse on the public thoroughfares, just as the "don't-care-a d—n" private of a volunteer regiment will think twice before micturating or committing a worse abomination inside his tent or on the camp streets, when his laziness or indifference involves extra duty and deprivation of privileges. It is the example of the right-doers which influences others to right-doing, especially when that influence is coercive. The imitative disposition which causes the infant child to acquire a foreign language without rule or precept, is a greater impellent force than mere admonition. People do as they see others do; hence the agitation in favor of public baths promises results far beyond the possibilities from verbal instruction and public health associations are to be congratulated upon the practical direction now given to their labors.

Riverside swimming pools open four months in the year, however well patronized, do not meet the requirements. The establishment should be in the midst of a slum accessible all the year round and available to the indigent class through the distribution of gratuitous tickets by philanthropic agents. A clean skin and clean clothes, though ragged, have a wonderfully humanizing effect on the wretched outcast. The splendid "Mills Hotels" in New York City, where a man can get a bath, a clean bed and a substantial meal for thirty cents are among the noblest benefactions of the time and are a veritable practical sanitary enterprise, as well as a satisfactory business investment. The women of Philadelphia who entered upon the crusade against spitting in street cars and other confined public resorts served their fellow kind far more than their sister enthusiasts who sewed to clothe naked Fijians, and other women may find the field of municipal sanitation one for which they are peculiarly fitted and one far less repulsive than the growing craze for nursing by young women, who do not realize that manipulating bed pans and urinals, introducing male catheters, cleansing the buttocks of dysenteric men, sponging grimy fever cases from head to foot and all over, and dressing suppurating buboes and bed-sores are abhorrent and only proper duties for other men. If churches of all denominations shall send an army of sanitary workers into the slums of our great cities, they may save many a poor soul now lost through dirt and neglect. Let bath-tickets for the unclean, whether they be deserving or not, be carried about for distribution, and it would be a clincher for good if a ticket entitling the cleansed pauper to a cup of coffee and a roll of bread were placed in the hands of the bath house officials for gratuitous disposal to those issuing doubly hungered by their cleansing, care being taken to protect against the abuse of thrifty mendicants, who have made soup-houses supplant the household provisions they are able to supply and caused public dispensaries to become the opprobria of medical charity. If philanthropic men and benevolent women shall provide themselves with a supply of bath tickets and meal tickets and bedroom tickets and give them to the tramp or beggar who appeals for alms, and close their purses to solicited nickels and dimes, a sum total of reformatory charitableness and of far-reaching good will be accomplished at a smaller pecuniary outlay than is now expended in misdirected charity. This is sanitary evangelization in which churches of every creed may appropriately and profitably engage.

ALBERT L. GIHON,
Med. Director U. S. N. (retired).

Association News.

Section on Laryngology and Otology.—The bound reprint of "Transactions of the Section on Laryngology and Otology," which contains all the papers and discussions presented to the Section at the last meeting of the ASSOCIATION, is now in press, and will be delivered to subscribers at an early date. Owing to the limited number of copies to be printed those desiring the volume will please send their subscriptions to this office at once. The cost will be $1 per copy, express prepaid.

Columbus Meeting.—A novel and it is believed an effective plan has been adopted by the committee to avoid the confusion which attends many large conventions, and that is in the location of particular classes of attending physicians. It lies in the grouping of specialists in certain departments at certain hotels. The local committee hopes to assign a certain number of Sections to each hotel, as many, possibly, as each can accommodate. When this has been done a report of the assignment will be sent to each Section's chairman, the report being made in triplicate, one being retained by the committee, one being given to the hotel proprietors (each), and one to the chairman. Each signs the paper. The chairman of each Section, on receiving his assignment, at once sends the hotel to which he is assigned a complete roll of the membership of that Section, and the hotel then books them. When a physician arrives at one of the hotels and gives his name, the list is looked over and if his name is on the list for that hotel he is all right; if it is on the list for another hotel, he is directed to that. The assignments will be made with fairness to all and, it is thought, will obviate to a minimum all trouble in finding strangers attending the convention.

Annual Announcement.—The fiftieth* annual session will be held in Columbus, Ohio, on Tuesday, Wednesday, Thursday and Friday, June 6, 7, 8 and 9, commencing on Tuesday, at 11 A.M.

"The delegates shall receive their appointment from permanently organized State medical societies, and such county and district societies as are recognized by representation in their respective State societies, and from the medical departments of the Army, Navy and Marine-Hospital Service of the United States.

"Each State, county and district medical society entitled to representation shall have the privilege of sending to the ASSOCIATION one delegate for every ten of its regular resident members, and one for every additional fraction of more than half that number: *Provided*, however, that the number of delegates for any particular State, Territory, county, city or town shall not exceed the ratio of one in ten of the resident physicians who may have signed the Code of Ethics of the ASSOCIATION."

Members by application.—Members by application shall consist of such members of the State, county and district medical societies entitled to representation in this ASSOCIATION, as shall make application in writing to the treasurer, and accompany said application with a certificate of good standing, signed by the president and secretary of the society of which they are members, and the amount of the annual membership fee, $5.00. They shall have their names upon the roll, and have all the rights and privileges accorded to *permanent members*, and shall retain their membership upon the same terms.

At a recent meeting of this ASSOCIATION the following was unanimously adopted:

WHEREAS, the AMERICAN MEDICAL ASSOCIATION did, at Detroit, in 1892, unanimously resolve to demand of all the medical colleges of the United States the adoption and observance of a standard of requirements of all candidates for the degree of doctor of medicine which should in no manner fall below

* No meetings in 1861 and 1862.

the minimum standard of the Association of American Medical Colleges, and

WHEREAS, this demand was sent officially to the Permanent Secretary, to the dean of every medical college in the United States, and to every medical journal in the United States, now therefore, the AMERICAN MEDICAL ASSOCIATION gives notice that hereafter no professor or other teacher in, nor any graduate of, any medical college in the United States, which shall after Jan. 1, 1899, confer the degree of doctor of medicine or receive such degree on any conditions below the published standard of the Association of American Medical Colleges, will be allowed to register as either delegate or permanent member of this ASSOCIATION.

Each delegate or permanent member, when he registers, is requested to record the name of the Section, if any, that he will attend, and in which he will cast his vote for Section officers.

Secretaries of medical societies, as above designated, are earnestly requested to forward, *at once*, lists of their delegates.

Also, that the Permanent Secretary may be enabled to erase from the roll the names of those who have forfeited their membership, the secretaries are, *by special resolution*, requested to send to him, annually, a corrected list of the membership of their respective societies.

ORATIONS: On Medicine, James C. Wilson, Philadelphia; on Surgery, Floyd W. McRae, Atlanta, Ga.; on State Medicine, Daniel R. Brower, Chicago.

Chairman Committee of Arrangements, Starling Loving, Columbus.

Amendment offered by W. L. Wills, California:

Constitution, Art. IV—Officers. Amend to read: "The following officers, viz: President, four Vice-Presidents, Treasurer, Librarian, Secretary, Assistant Secretary, and Chairman of Committee of Arrangements, shall be nominated by a special committee of one member from each State represented at the meeting, and shall be elected annually by the vote on a joint ticket, and shall hold office until their successors are elected."

SECTIONS.—"The Chairman of each Section shall prepare an address on the recent advancements in the branches belonging to his Section, including such suggestions in regard to improvements or methods of work as he may regard important, and present the same, on the first day of the annual meeting, to the Section over which he presides. The reading of such address need not occupy more than forty minutes."—*By-Laws.*

"A member desiring to read a paper before a Section should forward the paper or its title and length (not to exceed twenty minutes in reading) to the secretary of the Section, at least one month before the annual meeting at which the paper or report is to be read."—*By-Laws.*

OFFICERS OF SECTIONS.

Practice of Medicine.—Frank Billings, Chicago, Chairman; Carrol E. Edson, Denver, Secretary.

Surgery and Anatomy.—W. J. Mayo, Rochester, Minn., Chairman; M. L. Harris, Chicago, Secretary.

Obstetrics and Diseases of Women.—A. H. Cordier, Kansas City, Mo., Chairman; W. D. Haggard, Jr., Nashville, Tenn., Secretary.

Materia Medica, Pharmacy and Therapeutics.—Thomas H. Stucky, Louisville, Ky., Chairman; Leon L. Solomon, Louisville, Ky, Secretary.

Ophthalmology.—Casey A. Wood, Chicago, Chairman; Charles H. Williams, Boston, Secretary.

Laryngology and Otology.—Emil Mayer, New York, Chairman; Christian R. Holmes, Cincinnati, Secretary.

Diseases of Children.—Henry E. Tuley, Louisville, Ky., Chairman; L. D. Boogher, St. Louis, Secretary.

Physiology and Dietetics.—J. Weir, Jr., Owensboro, Ky., Chairman; Lee Kahn, Leadville, Colo., Secretary.

Neurology and Medical Jurisprudence.—Frederick Peterson, New York, Chairman; Hugh T. Patrick, Chicago, Secretary.

Cutaneous Medicine and Surgery.—W. T. Corlett, Cleveland, Ohio, Chairman; J. M. Blaine, Denver, Colo., Secretary.

State Medicine.—Arthur R. Reynolds, Chicago, Chairman W. P. Munn, Denver, Colo., Secretary.

Stomatology.—George V. I. Brown, Milwaukee, Wis., Chairman; Eugene S. Talbot, Chicago, Secretary.

WM. B. ATKINSON, permanent secretary,
1400 Pine st., Philadelphia.

Society News.

Pan-American Congress.—The third Pan-American Congress has been postponed to December, 1900, when it will meet at Caracas, Republic of Venezuala.

French Medical Congress.—The fifth French Medical Congress will be held at Lille, July 28. Questions announced for discussion: Myocarditis, adenia and leukemia, and becoming accustomed to drugs.

Association of Military Surgeons.—It is announced that the meeting of this association, which, owing to the late war, was not held at Kansas City, Mo., last year, will be held in that city May 24 to 26, inclusive.

Delaware County Medical Society.—The regular meeting of this society was held at Delaware, Ohio, March 7, the principal subject of discussion being smallpox. The next meeting is to be held in April. Dr. E. M. Semans is president.

Philadelphia Pathological Society.—In the report of this society given in the JOURNAL of March 4, the exhibition of "card specimens of paraplegia," etc., (last lines on p. 501) should have been credited to Dr. Wm. G. Spiller.

Chattanooga Medical Society.—The annual meeting of the Chattanooga (Tenn.) Medical Society was held March 3 and the following officers were elected for the ensuing year: President, D. E. Nelson; vice-president, W. G. Bogart; secretary, W. G. Tatum; treasurer, S. W. Fain.

New Medical Association.—A new medical association, including the physicians of New Kensington, Parnassus, Arnold and neighboring towns, was recently inaugurated at New Kensington, Pa., with Dr. J. G. Alter as president and Dr. D. M. Koontz of Arnold, secretary.

Kankakee County Medical Society.—At the recent meeting of this society held at Kankakee, Ill., it was decided to send a representative to the State legislature to oppose the passage of a bill now before the House legalizing the practice of Christian Scientists, faith-cure doctors and osteopaths.

Luzerne County Medical Society.—At the recent meeting of this society, held at Wilkesbarre, Pa., Dr. A. A. Barton presented a paper on "Puerperal Sepsis." At the next meeting Dr. Roderick is to present a paper on the use of suprarenal extract in operations on the nose and throat. He is also to give a talk on the St. Lazare, Paris, of which hospital he was for some months resident physician.

Associated Health Authorities of Pennsylvania.—In the JOURNAL of March 4 (p. 501) appeared a report of a recent meeting under the caption "Pennsylvania State Board of Health." We regret that a misinformed correspondent led us into this error, as the report concerned the recent meeting of Associated Health Authorities and Sanitarians of Pennsylvania. The third vice-president also, should read, H. H. Whitcomb of Norristown.

Chicago Medical Society.—A clinical meeting was held March 8, Dr. J. H. Stowell in the chair. Dr. O. T. Freer reported and exhibited a case of aneurysm of the aorta with acute paralysis of the left vocal cord. Dr. Homer M. Thomas spoke of an unusual case of aneurysm of the ascending arch of the aorta which he had reported and exhibited to the society last October. Dr. C. O. Young exhibited a case of hydrocephalus, Dr. Gustav Kolischer gave a demonstration of an operation cystoscope on phantom of female bladder. Dr. W. F. Dickson re-

ported a case of cystic kidney, and Dr. F. Kreissl showed a case of renal calculus removed by ureteral catheterization. He also exhibited a localizer for detecting strictures in the anterior urethra.

Tippecanoe County Medical Society.—At a recent meeting of this society, held at Lafayette, Ind., Dr. F. A. Thompson read a paper on "Dilatation of the Stomach," and Dr. M. C. Wilson one on "Leukemia." The following officers were elected: President, Adah McMahan; vice-president, M. M. Lairy; secretary, George F. Keiper; treasurer, George F. Beasley; censors, W. R. Moffitt, E. C. Davidson and George K. Throckmorton.

Louisville Medico-Chirurgical Society.—This society was the guest of Dr. Ap Morgan Vance March 6. He read a paper entitled "Where Are We At?" taking as his text the paper which has been so freely quoted from and commented upon in the medical press in regard to the division of fees by the surgeon and medical attendant in the event of a surgical operation by the surgeon. He deprecated the practice of such a thing, and stated there was no doubt of its prevalence.

Rhode Island Medical Society.—The regular meeting of this society was held at Providence, March 2. The election of officers resulted as follows: President, G. E. Hersey; vice-president, G. F. Keene; second vice-president, W. R. White; recording secretary, F. L. Day; corresponding secretary, Herbert Terry; treasurer, F. T. Rogers. Dr. George L. Collins presented a paper on enterectomy with recovery, and J. W. Keefe a patient on whom he had performed Halstead's operation for excision of the breast. Papers were read by Drs. F. T. Rogers, G. E. Gordon, G. F. Keene and H. G. Palmer.

Washington Medical Society.—At the meeting of this society, on the 8th, Dr. D. S. Lamb presented the specimen of cancer of the liver and gave the history. He also presented three specimens of cancer of the stomach. In one of the cases the patient had submitted to amputation of the cervix eighteen years previously for cancer of that organ. Dr. Samuel S. Adams read a paper entitled "Results in Immunizing Against Diphtheria." He showed the good effects resulting from the administration of diphtheria antitoxin as used in the Children's Hospital; some 400 cases were reported. The immunizing was effected to prevent a spread of diphtheria, which had appeared in the hospital, and was administered to all the patients, irrespective of their other ailments. The results were satisfactory in checking the disease. A lengthy and interesting discussion followed and, on motion, was continued over to the next meeting.

Kentucky State Medical Society.—Active preparations are now in progress for the annual meeting of this society, to be held in Louisville, May 17-19, under the presidency of Dr. David Barrow of Lexington. The committee of arrangements, composed of Drs. John G. Cecil, chairman; T. S. Bullock, Wm. Cheatham, A. M. Vance, and Louis Frank, has issued a circular letter to the profession of the State, and a large attendance is anticipated. Much of importance of a business nature will be considered, the chief of which is a change in the constitution of the society providing for a membership in the State society depending on a membership in a county society. This will necessitate the formation of a society in a number of counties which at present have no medical organization. The popularity of district medical societies, of which there are a number in the State, has caused interest to lag very much in the State society. The constitution also provides for a change in the appointment of delegates to the AMERICAN MEDICAL ASSOCIATION, which now rests with the president, independent of any county society affiliation. The exhibits will be a feature of the coming meeting, comprising medical and surgical products and appliances. Dr. Steele Bailey of Stanford, Ky., is the permanent secretary.

Medical Association of Georgia.—The preliminary program of the fiftieth annual session of this association, to be held at Macon, April 19-21, contains the following papers:

Address of Welcome, Hon. Emory Speer, Macon.

Response to Adddress of Welcome, DeSaussure Ford, Augusta.

The Woodbridge Treatment of Typhoid Fever, T. Virgil Hubbard, Atlanta.

Infant Feeding in Health and Disease, Gillham Robinson, Atlanta.

Seven Cases of Diphtheritic Croup—and Treatment, R. M. Harbin, Rome.

The Necessity of a State Pediatric Society, O. B. Bush, Colquitt.

The Endoscopic Treatment of Chronic Urethritis, W. L. Champion, Atlanta.

Some Facts in Regard to the Medical Complications, Sequelæ and Treatment of Typhoid Fever, Hobart A. Hare, Philadelphia.

Some Fallacies in the Modern Treatment of Nose and Throat Diseases: 2. The Effect Upon the Eye of Electric Flashes of Light, Dunbar Ray, Atlanta.

Technic of *a*, Suprapubic Cystotomy for Stone; *b*, Varicocele, Willis F. Westmoreland, Atlanta.

Catarrhal Laryngitis; 2. A Suggestion to Increase the Value of Membership in Our Association, H. R. Slack, LaGrange.

Mitral Stenosis, M. F. Carson, Griffin.

The Therapeutic Value of Hypnotism, J. R. Rose, Eastman.

The Surgical Treatment of Empyema, W. S. Elkin, Atlanta.

Acute Obstruction of the Bowels, F. W. McRae, Atlanta.

The Best Remedy for Opium Poison, W. A. O'Daniel, Milledgeville.

Mouth Breathing, J. M. Crawford, Atlanta.

Mumps and Metastasis, A. A. Davidson, Augusta.

Nasal Obstruction and Its Influence, J. L. Hiers, Savannah.

An Analysis of Appendicitis Operative Methods, Joseph Price, Philadelphia.

Appendicitis: From the Standpoint of a Country Doctor, A. C. Davidson, Sharon.

The Importance of a More Thorough Preliminary Education of the Medical Student before Entering College, A. A. Smith, Hawkinsville.

Chronic Diarrhea, T. M. Greenwood, Mineral Bluff.

Emergency Surgery, Nicholas Senn, Chicago.

A Case of Pachymeningitis, Result of a Chronic Syphilitic Rhinitis, Eugene R. Corson, Savannah.

Report of Cases in Eye, Nose and Throat Practice, Ross P. Cox, Rome.

Malignant Aphthous Tonsillitis or Diphtheroid Sore Throat, Mark H. O'Daniel, Bullards.

A Report of Two Interesting Cases, W. D. Travis, Covington.

Improved Perineorrhaphy, Geo. H. Noble, Atlanta.

The Technic of Rectal Examinations, Jas. P. Tuttle, New York City.

Some Remarks on the Tact and Delicacy Necessary in Prognosing Ear Cases, Arthur G. Hobbs, Atlanta.

Crawford W. Long and His Discovery, L. H. Jones, Atlanta.

The Physiology of Ether Anesthesia, J. B. Morgan, Augusta.

Ether vs. Chloroform, W. H. Elliott, Savannah.

The Administration of Ether and How to Meet Its Dangers, S. C. Benedict, Athens.

Title to be furnished, W. E. Fitch, Savannah.

Adenoid Vegetations in the Post-Nasal Regions, with Especial Reference to Their Influence Upon the Ear, A. W. Calhoun, Atlanta.

Posterior Displacements of the Uterus, W. B. Gilmer, Macon.

Title to be furnished, St. J. B. Graham, Savannah.

Some Experiences in a Country Practice, W. L. Story, Sycamore.

The After-Treatment of Abdominal Sections, V. H. Taliaferro, Savannah.

The Prevention and Treatment of Pelvic Inflammatory Diseases in the Female by the General Practitioner, R. R. Kime, Atlanta.

The Treatment of Some Cases of Cancer of the Skin, M. B. Hutchins, Atlanta.

A Case of Intestinal Obstruction, from Meckel's Diverticulum, with Gangrene of Intestine—with Specimen, W. P. Nicholson, Atlanta.

Treatment of Carbuncles, Oliver H. Buford, Cartersville.

Asphyxia Neonatorum, Prognosis and Treatment, C. H. Richardson, Montezuma.

Mitral and Aortic Lesions of the Heart—with Specimens, J. L. Campbell, Atlanta.

The Doctor's Scapegoat, the Liver, E. R. Anthony, Griffin.
Puerperal Septicemia, W. N. Edenfield, Pinehurst.
Sympathetic Ophthalmia, Alex. W. Stirling, Atlanta.
The Rights and the Wrongs of the Medical Witness in Courts of Justice, Jas. B. Baird, Atlanta.
Surgical Treatment of Varicocele, Wm. S. Goldsmith, Atlanta.
Deaf Mutes, with Clinic, M. M. Stapler, Macon.

Public Health.

Foot and Mouth Disease.—The Swiss bacteriologic institute at Berne offers farmers a new serum discovered by Professor Loeffler, to protect cattle against foot and mouth disease.—*Gaz. degli Osp.*, February 7.

Spread of Leprosy in Western Russia.—The autumn recruiting disclosed an alarming spread of leprosy among the young men eligible for military service along the shores of the Baltic, in the neighborhood of Riga.—*Derm. Cbl.*, February.

Detroit Health Report.—For the week ending March 11, the report gives: Deaths 107, under 5 years 44; births, male 39, female 33; diphtheria, last report 7, new cases 9, recovered 6, dead 3, 7 now sick; scarlet fever, last report 31, new cases 8, recovered 14, 0 dead, 25 now sick.

Health in Chicago.—The deaths reported during the week ending March 11 were fifty less than the preceding week and the total number the lowest recorded for any week since that ending Jan 7, 1899. The marked reduction in deaths from pulmonary diseases is the principal cause of the reduction in deaths. Deaths from the impure water diseases, especially typhoid fever, are remarkably low; during the last six weeks there have been only thirty deaths from the latter disease. The total deaths, all causes, for the week ending March 11, were 517, and for the corresponding week in 1898, 508, with 567 for the week ending March 4, 1889.

Health in Indiana.—Reports to the State board of health, for February, indicate a slight decrease in the area of prevalence compared with January, of: influenza, pneumonia, bronchitis, pleuritis, scarlet fever, diarrhea and whooping-cough, with a slight increase in meningitis, inflammation of bowels, erysepelas, diphtheria, croup and intermittent fever. Meningitis has prevailed to an unusual degree, in Vanderburg and Posey Counties being very fatal. Puerperal fever doubled in area of prevalence. Smallpox appeared in Vanderburg, Sullivan, Green, Daviess, Floyd, Clark and Jefferson Counties, and in Marion County, at Indianapolis, smallpox first appeared January 28, and up to March 1 fourteen cases had developed. No fatalities from this disease are so far reported throughout the State.

Appendicitis in French Army.—A comprehensive study of the cases in the army during the last three years—171—shows that 83 were treated medically and 88 were operated on. Medical treatment had a mortality of 4 per cent. among those treated before the fourth day; 37.8 per cent. among those treated from the fourth to the eleventh day, and over 50 per cent. of the few whose affection was not diagnosed and treated correctly until after the eleventh day. The reports of surgical intervention indicate that it is better to wait before operating until the formation of a purulent collection, as the mortality among those operated in the first five days amounted to 42 per cent., while it was only 30 per cent. of those operated the fifth to the tenth day. There were two deaths among 14 operated *à froid*. Another point in which these statistics afford a surprise is that the mortality among the cases in which the surgeon sought out and removed the appendix, amounted to 7 out of 18 cases, while in 56 cases in which the intervention was restricted to opening the abscess and draining, there were only 16 deaths. The best results were attained with an iliac incision, that is, parallel to, and not far from, Poupart's ligament.—Chauvel: *Bull. de l'Acad. de Med.*, January 24.

Typhoid Fever in the Forty-ninth Iowa.—Under date of Feb. 23, 1899, Maj. Jefferson R. Kean, chief surgeon Department of the Province of Havana, reported that since January 21 eight cases of typhoid fever had appeared in the Forty-ninth Iowa Volunteers. As the regiment at the time of Dr. Kean's inspection was absent from its camp on a ten days practice march, an excellent opportunity was offered for the institution of measures of disinfection. The division sanitary inspector and the regimental medical officer, who had remained in camp in charge of the cases, were directed to have the tents, buildings and floors sprayed or washed down on the inside with a solution of bichlorid of mercury, 1 to 1000, and to have all the buildings and sinks limewashed. During the absence of the regiment the tent walls were to be kept raised from sunrise to sunset, and the ground under the tents thickly sprinkled with freshly burned lime, the tent floors being moved out of the tents for this purpose. All precautions needful to prevent the spread of infection were in force in the hospital.

Precautions in Cuba.—In view of the possible occurrence of yellow fever in his command, Maj. J. R. Kean, chief surgeon of the Department of the Province of Havana, Cuba, has issued the following to his medical officers:

Attention is invited particularly to the following paragraph of Circular No. 9, Headquarters Division of Cuba, publishing certain sanitary suggestions of the surgeon-general:

"Every case of fever should receive prompt attention. If albumin is found in the urine of a patient with fever, it should be considered suspicious (of yellow fever), and he should be placed in an isolated tent. The discharges of patients with fever should always be disinfected at once with a solution of carbolic acid (5 per cent.), or of chlorid of lime (6 ounces to a gallon of water), or with milk of lime made from fresh quicklime."

With reference to the early diagnosis of cases of yellow fever, two symptoms should be particularly watched for in all fever cases: 1. The appearance of albumin in the urine. 2. A gradual fall in the pulse-rate while the temperature remains stationary, or is rising, or a disproportionate slowness of the pulse as compared with the temperature (Paget's law). To this end, the urine will be tested every twelve hours, and the temperature and pulse taken every three hours, and an accurate record of these observations kept in ink. Temperature charts will be furnished from this office. As we have but little scientific knowledge of the ephemeral fevers of the tropics, these records extending over a large number of cases will be of great value, and it is requested that they be preserved, and at the end of each month sent to the office of the chief surgeon to be forwarded to the surgeon-general's office.

Food and Clothing of Troops at Manila.—In a recent report to the surgeon-general, Maj. Herbert W. Cardwell, chief surgeon, Vols., states that in his opinion the government ration contains an excess of meat and a deficiency of vegetables for the climate of Manila. After the long voyage to the Philippines the salt meat became distasteful to the men and they craved vegetables. The needful vegetable diet was not on hand in the Subsistence Department, and the men consumed large quantities of native fruits, with resultant diarrheas and mango boils. Pineapples were especially dangerous, as they were usually peeled by the natives and exposed to the sun and flies some time before sale. The men craved and needed prunes and other American fruits, beans, rice, peas, oatmeal and other cereals, and canned tomatoes, corn, succotash, etc. The salt meat ration was in great part wasted, and need not have been issued except in sufficient quantity to yield cooking fat. The fresh meat ration was difficult to procure, and coming from refrigerator ships, could not be preserved longer than twelve hours. Its quality was excellent. The cooks on shipboard were inefficient. Such mistakes as cooking corned beef and cabbage in the steam coffee tanks sufficed to spoil the dietary of an entire shipload of troops for days afterward. Most of the complaints regarding life on transports are considered by

Dr. Caldwell to be exaggerated or positively untrue; but nevertheless there was enough of constraint to cause men on arriving on shore to break through all the rules of health, and neglect all the precautions which had been thoroughly and systematically impressed upon them. Concerning the clothing, he states that the earlier arrivals suffered severely from the lack of suitable clothing, but the first issue of light-weight underclothing corrected this evil. The Khakie uniform has not been issued to any of the troops. The canvas fatigue suits or overalls were unfit to be worn without underclothes until several washings had softened their texture. Many men were disabled from duty by chafing caused by these harsh uniforms. The most comfortable as well as the neatest uniform for the Philippines is that provided by the Spanish government for the 73d Regiment of Jolo, consisting of an undershirt of white flannel, closely resembling the heavier outing flannel of the United States, made in the form of a jacket, light underdrawers and white duck uniforms with a belt. This looks well with or without the blouse, and protects the latter perfectly from perspiration. It prevents chafing, and is never too warm.

Legislation in Nebraska.—A measure is now before the Nebraska Legislature, entitled "A Bill for an Act to protect the public health and to prevent the spread of contagious and infectious diseases, conferring sanitary and other powers and imposing new duties on the State board of health, providing for a State health inspector and the manner of his appointment, authorizing the establishment, relaxation and suspension of quarantine, making an appropriation for salary and expenses, fixing penalties for violation of the terms of this act and providing for prosecution of offences against the same and for other purposes."

The first section confers very extensive powers on the State board of health, to establish and enforce quarantine, and requires all local boards of health and county, municipal and State officials to act under their orders under penalty. Section 2 requires the board to investigate the causes of disease in both man and the lower animals and to collect and disseminate information on the same; also to investigate and report on sanitary questions when called upon by the State or local boards of health. Section 3 gives the board the supervision of birth and death reports and their classification and publication, and Section 4 requires local health boards, county and other local officials and physicians, to report promptly to the State board of health all cases occurring of Asiatic cholera, yellow fever, smallpox, scarlet fever, diphtheria, membranous croup, typhus and typhoid fever and such other contagious diseases as shall be specified by it from time to time. Section 5 provides that the county attorney shall institute prosecutions on information from the State board for violations of the provisions of this act. This does not preclude private action by citizens for their own protection or that of the community. All fines, etc., collected, are to be paid over to proper local officers for the benefit of the school fund. Section 6 provides for the appointment of a State health inspector, a regular graduate physician of practical skill and experience, whose term of office shall be four years, subject to removal for cause after trial and hearing before said board, his duties to be prescribed by the board, and his salary not to exceed $2000 per annum. Section 7 requires the secretaries of the State board of health to nominate and recommend a suitable person for State health inspector, within forty days from the going into effect of the act. Section 8 requires the making of annual reports including such matters as may be thought useful for dissemination among the people, with such suggestions as to legislative action as experience and observation may indicate as necessary. Section 9 appropriates $10,000 for the salary of State health inspector and necessary expenses for carrying out the provisions of the act. Two sections originally included —one an emergency clause and the other referring to the transportation of dead bodies, have been omitted in the bill as it now stands. The latter provision will be, in some form, included in an undertaker's bill that is likely to pass. There is another bill before the legislature providing for the reporting of vital statistics to the State board of health, drawn up in the interests of the legal profession, with special reference to questions of successions (inheritance), etc.

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague have been reported to the Supervising Surgeon-General of the U. S. Marine-Hospital Service for the week ended March 11, 1899:

SMALLPOX—UNITED STATES.

Alabama: Mobile, February 25, 1 case.

California: Los Angeles, February 17–25, 15 cases; 5 deaths.

District of Columbia: Washington, February 18 to March 4, 15 cases.

Georgia: Savannah, March 2, 1 new case. Origin probably in North Carolina.

Florida: Jacksonville, February 25 to March 4, 3 cases.

Illinois: Biggsville, March 7, 1 case; Cairo, March 7, 26 cases; Pana, March 7, 1 case; Murphysboro, March 7, 2 cases.

Indiana: Evansville, March 3, 1 case; New Albany, March 5, 1 case.

Indian Territory: Secretary Territorial Board of Health of Oklahoma states March 4, that nearly 50 deaths have been reported to him from Indian Territory.

Maine: Lewiston, February 25 to March 4, 2 cases.

Michigan: Watervliet Township, March 2, 1 case.

Nebraska: Omaha, February 18–25, 3 cases.

New York: New York City, February 25 to March 4, 7 cases, 1 death.

North Carolina: Burlington, Franklin County, March 1, 3 cases, 1 death.

Ohio: Brooklyn, February 7–27, 1 case; Dialton, February 7–27 1 case; Franklin, February 7–27, 2 cases; Gallipolis, February 26, 2 cases; Sandusky, February 7–27, 2 cases; Shenandoah, February 7–27, 1 case; South Charleston, February 7–27, 1 case; Sunbury, February 7–27, 3 cases; Toledo, February 7–27, 1 case; Wellington, February 7–27, 1 case; Willoughby, February 7–27, 1 case.

South Carolina: Harry County, March 9, smallpox outbreak reported.

Tennessee: Memphis, March 1–7, 14 cases.

Virginia: Alexandria, March 6–9, 5 cases; Norfolk, March 4–8, 22 cases.

SMALLPOX ON VESSELS.

S. S., *City of Kansas*, at Memphis, Tenn., March 7, 1 case.

S. S. *Thomas Brooks*, at Santiago de Cuba from Guantanamo Bay, February 3.

SMALLPOX—FOREIGN.

Brazil: Rio de Janeiro, January 13–20, 12 cases, 5 deaths; Bahia, February 4–11, 2 cases.

China: Tientsin, January 4–11, 1 case.

Russia: Moscow, February 4–11, 4, 6 cases, 3 deaths; Odessa, February 11–18, 1 case, 1 death; St. Petersburg, February 4–18, 7 cases, 1 death; Vladivostock (Siberia), November 1–30, 1 case, In other parts of the same maritime district, 21 deaths.

Turkey: Constantinople, February 13–20, 10 deaths; Smyrna, February 3–12, 1 death.

YELLOW FEVER—FOREIGN.

Brazil: Rio de Janeiro, January 13–20, 32 cases, 13 deaths.

CHOLERA—FOREIGN.

India: Calcutta, January 21–28, 16 deaths; Madras, January 28 to February 3, 4 deaths.

PLAGUE.

India: Bombay, January 24–31, 540 deaths officially reported, probably 1100.

Necrology.

JOHN A. BENSON, M.D., of the College of Physicians and Surgeons, Chicago, died at his home in Chicago, March 9, from nephritis complicated with la grippe, Dr. Benson was graduated from the College of Physicians and Surgeons, New York, in 1880, and located in Chicago in 1888. He made a specialty of brain troubles, became somewhat prominent in neurology, and was for some time medical superintendent of the Dunning Insane Asylum. During the past year, on account of ill health,

he was oblighed to relinquish his work as professor of physiology at the College of Physicians and Surgeons, but recently was enabled to take it up again.

ASAHEL HAWLEY HEATH, M.D., Castleton, Vt., 1859, died at his home in New York city, March 10, in his 76th year.

HENRY PARKER QUINCY, M.D., Harvard 1876, of Boston, Mass., died at his home March 11. He was a cousin of ex-Mayor Quincy and a member of the Harvard Medical School faculty.

THOMAS J. HEARD, M.D., Tulane Univ. N. O. La., 1845, died at his home in Galveston, Texas, March 9.

FRANK T. BARWIS, M.D., College Physicians and Surgeons, N. Y., 1884, died in New York city, at his home, March 9.

JAMES WOOD, M.D., Bellevue, N. Y., 1891, lieutenant and asst.-surgeon, 202d Regt. N. Y. Volunteer Infantry, died at Havana, Cuba, March 3, aged 30 years.

JOSEPH D. LITTLEFIELD, M.D., Univ. Pa., 1876, of Jamestown, N. Y., was found in a chair dead from cardiac disease, in his office on the morning of March 11.

JOHN KNIGHT WARELE, M.D., College Physicians and Surgeons, N. Y., 1851, died at his home in Hudson, N. Y., March 4. Born in England in 1825, he came to America at an early age, practiced a few years in New York city and in 1854 was ordained a clergyman of the M. E. Church.

SAMUEL R. OLLIPHANT, M.D., Mobile, Ala., died March 3, aged 71 years. Dr. Olliphant was graduated in medicine, from Tulane University, in 1848, and for a time practiced in Enterprise, Miss., in 1872 locating in Mobile. He was a member of the Mobile Board of Health for some years and was for several years president of the Mobile Medical Society.

CHARLES S. BUCKNER, M.D., Baltimore, Md., died March 2, aged 78 years. He was graduated from the Maryland University School of Medicine in 1843, then went to South Africa, where he practiced for a time. Returning to this country, he practiced in San Francisco and then in Baltimore, and is credited with being a member of the first exploring party to enter the Yosemite Valley.

HIRAM W. ROSS, M.D., St Helen, Ore., died in Portland, recently, at the age of 77 years. In 1853 he was graduated from Rush Medical College, Chicago, and in 1856 moved to Oregon, where he continued in practice until about a year ago.

WILLIAM BURKITT, M.D., Keokuk, Iowa, died March 12. . . C. E. Conner, M.D., Centralia, Pa., died in New Mexico, recently. . . T. M. Cullimore, M.D., Beatrice, Neb., died at Jacksonville, Ill., March 4. . . W. G. Jeffries, M.D., Tappahannock, Pa., March 3, 68 years. . . Stephen E. Ranney, M.D., North Bennington, Vt., March 3, aged 76 years. . . A. C. Simonton, M.D., Vernon, La., March 6, aged 67 years. . . C. S. Wilmore, M.D., Kirksville, Ky., March 4, aged 70 years.

Miscellany.

The Influenza Bacillus.—In the JOURNAL of March 11, p. 565, in line 5 of the paragraph entitled "The Influenza Bacillus," read "the characteristic symptoms of mumps," the words "of mumps" having been omitted through a copyist's error. In line 10 read "parotitic" for "paretic."

Forceps for Chalazion Extraction.—Dissection and extraction are liable to be difficult with the hook usually employed, as it only seizes the tumor at one point and is apt to tear the tissue. Jacovidés has devised a forceps resembling a clamp, but with openings in the blades to oversee the grasp of the forceps. Each blade terminates in a dozen small mouse teeth which seize the tumor firmly.—*Bull. de l'Acad. de Méd.*, January 24.

Glaucoma Consecutive to Influenza.—Despagnet reports a case of subacute glaucoma following a severe case of influenza infection. Recovery followed instillations of pilocarpin, ingestion of quinin, and superior iridectomy. Two other cases were also reported recently in which glaucoma developed after influenza, terminating in blindness, but in these there was evidently a pre-existing tendency.—*Rev. Gen. d'Oph.*, January 31.

Traumatic Chylothorax.—In 265 years of medical literature there are only fourteen cases on record in which an injury to the thorax resulted in rupture of the thoracic duct and an effusion of chyle into the pleura and peritoneum. Two additional cases are described in the *Munich Med. Woch.* of February 7, in which puncture in the seventh and eighth intercostal spaces gave issue to an orange-tinted, milky fluid at first, milk-white later, evidently chyle escaping from some injury to the thoracic duct. Both cases soon recovered.

Not Necessarily of "Consultation" Rank.—The claim that from the moment more than one physician is called in and attends regularly upon a case every visit made by every physician employed takes rank as a "consultation," the supreme court of Louisiana declares, in the case of the Succession of Haley, as it is termed, can not be listened to. And the court further holds that in fixing the value of the fees due by a succession (or estate) for professional services of physicians, the court is justified in taking into consideration the value of the succession (or estate).

Phagocytosis in Hen Cholera in Rabbits.—Prof. B. Werigo has been examining rabbits inoculated with virulent cultures in the ear or crural vein, then killed in from two to one hundred minutes. The leucocytes and endothelial cells of the liver absorb all the bacteria in a suprisingly brief period, a few minutes after the injections. The bacteria in the leucocytes degenerate, but not all of those enclosed in the liver cells. The rest retain their vitality, multiply rapidly and propagate throughout the organism. The new leucocytes lose their phagocytic property shortly before the death of the animal. These results contradict Metschnikow's theory in regard to immunity, as they indicate that the leucocytes of the rabbit possess no negative chemotaxis even for those bacteria that kill the animal the most rapidly.—*St. Petersburg Med. Woch.*, February 18.

Instantaneous Radiography.—Lenoir exhibited some fine instantaneous radiographs at the Paris Academy of Medicine, February 14; thorax of adults taken in from one to six seconds, thorax of a child in half a second, etc., some with an anticathode parallel to the plate, others with the axis of the tube parallel to the plate, and others half way between, the latter affording best results. He uses a special tube, but observed that any tube with a good vacuum will answer if the incidence which ensures the maximum of penetrating power to the rays can be determined beforehand. He uses rapid radiographic plates, developed in hydroquinone or pyrogallic acid, and a coil with 35 cent. sparks. He has also invented an apparatus to render blurred negatives distinct to the eye; the negatoscope. The negatives are looked at through tinted glasses, a combination of yellow and violet.

Widal's Test with Chemic Substances.—Bossert has established that while none of the numerous chemic substances he examined produce a specific agglutination with the cholera vibrio alone, yet 1 per 1000 sublimate, 25 per cent. formalin and .4 per cent. safranin produce agglutination with various members of the cholera group, and it differs slightly with each. In the absence of a specific serum this fact may be found useful in making a "probability diagnosis" in a doubtful case. It seems probable that in the future we will find it necessary to include the presence or absence of agglutination with various chemicals in our differentiating descriptions of bacteria. He also finds that the blood of the fetus in goats has only a feeble agglutinating power, even when the mother possesses it to a marked degree; also that it is noted in the milk as much as in the serum.—*Annals of Paris Pasteur Institute*, xii, 12.

Duty in Maintaining Hospital System.—A railroad company having undertaken to provide its injured and sick employes with medical and surgical assistance, the supreme court of Indiana holds, in the case of the Wabash Railroad Company vs. Kelley, is bound to exercise reasonable diligence in the selection and retention of its physicians and other attendants. This reasonable diligence, it goes on to state, includes the duty to supervise the work of its hospitals, and to discharge any appointees who, although reasonably competent at the time of their appointment, have, on account of the use of intoxicants and and narcotics, or for other causes, since become incompetent. And this, it adds, is particularly the case where the incompetency of the surgeon in chief has become notorious in the community, so that the company's supervising officials must have, or at least ought to have known it.

Implanted Particles of Hair on Favus Scars.—Menahem Hodara of Constantinople relates that he has been invariably successful in producing a growth of hair in young persons on patches of cicatricial alopecia consecutive to favus, by implanting a large number of small pieces of hairs after scarifying the surface thoroughly and wiping off the blood. The scraps of hair are from one to four millimeters in length, cut from the ends with scissors. A round piece of paper is laid over the spot, held with plaster. When it is removed in four weeks most of the hairs come with it, but a number remain imbedded in the furrows of the scarifications, and these sprout and become regular hairs, with a medullary canal in the center, interrupted at spots, and with apparently normal root and bulb examined with the microscope. By three or four months the patch of alopecia is covered with an actual capillary vegetation, scanty but genuine, and multiplying the scarifications and implantations produces still better success.—*Archives Orientales*, i, No. 1.

Results of Twenty Gastroenterostomies.—Hartman publishes, in the *Presse Méd.* of February 18, a study of twenty observations carefully followed. The subjective troubles have disappeared entirely in nearly every case; the general health is regularly improved—one patient gained sixteen kilos in two months. The stomach diminishes in size, but the motor function remains a little less than normal, although better than before the operation. There is some gastric stasis for months and permanently in a few cases. The continence of the orifice was noted in sixteen out of twenty cases. The acidity of the stomach decreases. A fact constantly noted is the delay in the appearance of the gastric secretions which are permanently retarded. Bile regurgitates into the stomach in all but one case, but has never determined any inconveniences. There is no further constipation after gastroenterostomy and diarrhea was noted in some cases. The patients operated for cancer survived three to eighteen months, an average of seven months, free from vomiting or pain.

Iodin by Electrolysis.—P. Laschtschenko has demonstrated that iodin can be carried into the organism by the electric current. Holding in each hand a platinum electrode wrapped in cotton impregnated with potassium iodid, a current of five to eight milliampères was passed through him for ten to fifteen minutes, which decomposed the potassium iodid. At the positive pole the potassium cathion entered the organism with the current, leaving the iodin anion alone in the cotton, with all the characteristics of simple iodin, while at the negative pole the iodin anion passed into the organism, leaving the potassium in the cotton. He also states that if the hind legs of a frog are placed in test tubes filled one with a weak solution of nitrate of strychnin and the other of sulphate of sodium, the passage of a current of five milliampères through the frog causes the characteristic phenomena of strychnin intoxication to appear, and ten times more rapidly than with osmosis through the skin. He also asserts that the resistance of the body to the passage of the current is a constant figure, like that of the temperature of the body, an average of 1100 to 1200 ohms (max. 1400; min. 800).—*Deutsche Med. Woch.*, February 16.

Agency of Medical Examiner.—While stipulations that medical examiners shall be regarded as the agent of the applicant for insurance as to all statements made by the latter are now usually inserted either in the application or in the policy, yet, the supreme court of Illinois holds, they can not change the facts, and where a duly appointed agent of the company acts in its behalf, within the scope of his authority as otherwise determined, his acts are binding upon the company. In accordance with this view, it insists, in the recent case of the Royal Neighbors of America vs. Boman, that it was a question of fact as to whose agent the medical examiner here involved was, which should be determined from all the evidence bearing on that subject, and not merely from the statement in the application that he was the agent of the assured. It further holds that inasmuch as the medical examiner in question was acting in the interests of the insurer, his knowledge must be held to be the knowledge of the principal; and that, it being his duty to ascertain the actual facts about the risk, his report to his principal must, where no fraud or intent to deceive on the part of the applicant was shown, be conclusive upon it.

Double Serum and Double Agglutination.—J. Honl has been experimenting with animals immunized against diphtheria infection, trying to immunize them at the same time against streptococcus infection, thus producing a double serum effective against mixed infection. His results were encouraging, but the double serum was not tested on man, and the often noted unreliability of a serum derived from the streptococcus caused disappointment in some of the tests. Later experiments with animals immunized against typhus (with typhus serum, cultures or protein), and then infected and rendered immune against pyocyaneus infection, resulted in the agglutination not only of the typhus bacilli, but also of the pyocyaneus. This proves, he states, that a double immunization, a double serum and a double agglutinating power are possible and practicable. He notes the fact that the serum of a typhoid patient or infected animal confers the agglutinating property upon rabbits or mice, injected into a vein, which may prove valuable in testing serum that is infected with other bacteria, or doubtful typhus suppurations, etc.—*Vienna Klin. Rundschau*, February 12.

Criminal Anthropology.—A contemporary quotes from the *British Medical Journal* a paragraph noting the observations of criminal anthropologists on the stigmata of the assassin, Luccheni, which concludes as follows: "It would have been more satisfactory if the criminal anthropologists could have recognized all these evidences of criminality before Luccheni had perpetrated the crime which has given him the notoriety of infamy which he coveted." Such "hind-sight" comments on notable criminal degenerates are common enough, but it is surprising that they should be indulged in by high-class medical journals. What good would it have done if Luccheni's stigmata had been recognized before, and what could criminal anthropologists have been able to do in that case? The presence of stigmata does not necessarily make a criminal, nor is a man amenable to penal law until he has committed crime. Well-recognized, dangerous paranoiacs are constantly being released by courts in spite of medical testimony as to their conditions and tendencies. The slur at criminal anthropolgists is an unworthy one, though popular and frequently indulged in by the laity and, as it appears, also sometimes by others.

Intoxication with Pomegranate Bark.—Seventy-eight cases of intoxication with ethereal extract of male fern are on record, twelve fatal, and a large number affecting the eyes more or less seriously. A few cases of intoxication and ocular troubles caused by the combination of male fern and pomegranate bark

have also been observed, but a case described by Sidler in the *Corr. Blatt. f. Schweizer Aertze* is probably the first in which the same symptoms were noted after the ingestion of pomegranate bark alone: A young man took in three doses a maceration of 125 grams of pomegranate bark in 400 grams of wine, vomiting half of it. The tænia was evacuated intact an hour later, but the patient was seized with chills, syncope and fever for twelve hours, followed by a comatose condition in bed for ten days, when he found he was unable to see. Sight gradually returned to normal for the left eye, but remained permanently $\frac{1}{20}$ in the right, with the visual field permanently contracted. The action of the alkaloid can be more accurately defined, but it is well to remember that symptoms of intoxication have been observed after ingestion of two to five centigrams of pelletierin sulphate.—*Rev. Gen. d'Oph.*, January 21.

Medical Witness Entitled to Extra Pay.—The branch appellate court, first district, Illinois, considers that the only question discussed or determined by the supreme court in the case of Dixon vs. People, 168 Ill., 179, is whether a physician subpenaed and interrogated as an expert witness only, can lawfully refuse to testify upon the ground that no compensation other than the statutory witness fees has been paid or promised to him. But, notwithstanding the decision there that he can not, the court thinks that it follows from that very decision, and what the supreme court there said, that if a physician, at the request of a party to a suit, performs any such extra service as making a postmortem examination, or of preparing himself in advance for testifying in court by making an examination or performing an operation, or resorting to a certain amount of study, it is entirely proper and legal to receive payment therefor, or to make an agreement whereby he is to receive such payment. So the appellate court holds, in Lewis vs. Blye, that a physician who had professionally attended the plaintiff in a personal injury suit after such injury could make a valid and binding contract with her whereby he should be compensated for his services in conferring with her attorneys at her request, and in appearing in court a second day, also at her request, so as to be present in case contradictory expert testimony should be offered.

Abscesses Communicating with Joints.—Phelps (*Phil. Med. Jour.*, March 4) favors incision and drainage in abscesses communicating with joints, having opened and drained every abscess, tuberculous and purulent, that has come under his care during the past fifteen years, without the untoward results predicted by some writers. He gave the following reasons for operating: 1. To save years of treatment and suffering. 2. To explore intelligently. 3. To get rid of foreign material by drainage. 4. To avoid amyloid disease of the liver and kidney by infection. 5. To prevent burrowing into important structures and cavities. 6. To prevent maceration and infection, leading to destruction. 7. To remove sequestra if present. 8. To apply the scientific rules of the surgeon and pathologist. 9. To avoid the danger of the tuberculous cavity becoming purulent, a condition occurring in 90 per cent. of the cases. 10. To anticipate a possible excision. He also advises to always operate: 1. When the capsule of the joint is ruptured. 2. In rapid osteomyelitis or dual inoculations with joint distension. 3. On abscesses appearing at points where they may burrow to other important structures, etc. 4. On all tense abscesses. 5. When carious or necrotic bone is present. 6. In rapidly increasing abscesses. 7. On joints filled with tuberculous or purulent material. 8. In repeated occurrence of abscess and multiple sinuses. 9. In abscesses in feeble children, with rise of temperature. 10. In every abscess with rise of temperature. 11. When there is doubt as to diagnosis. 12. In every abscess filled with pus or when there is breaking down of tuberculous tissue.

Medical Conditions in the Army at Manila.—The condition of the regiments serving in the Philippines may be appreciated from reports dated Jan. 15, 1899, from the 2d Brigade, 2d Division, 8th Army Corps, under the medical charge of Major S. O. Potter, brigade surgeon Vols. The 1st Neb. Infantry is the only regiment of the three in the brigade which has dry-earth closets instead of sinks, and which deposits its wastes in baskets and barrels to be carted away from camp, and it is the regiment which has the smallest sick list, 7.5 per cent., 3.9 being sick in quarters. The total number of sick in the brigade was 309, being 9.6 per cent. of the command, 4.9 per cent being slight cases treated in quarters. The cases arranged by diseases were as follows: malarial fevers 73, venereal diseases 64, intestinal diseases 44, typhoid fever 7, rheumatic affections 19, pulmonary diseases 16, variola 3, vaccinia 16, parotitis 3, pemphigus 3, injuries 33 and all other causes of disability 28. A report from the chief surgeon at Manila, Lieut.-Col. Henry Lippincott, deputy surgeon-general U. S. A., dated Jan. 22, 1899, shows an improving condition of medical affairs in the Philippine army as a whole. There are four hospitals available for the troops. The First Reserve Corps Hospital, at the date of writing contained 583 cases, but during November and December, 1898, had a daily average of 701 cases. This hospital has tent wards of 180 beds, of which few are used. A small building furnished by the Red Cross Society and called the Red Cross ward, affords space for 30 beds used chiefly for serious cases of disease among officers. The smallpox isolation wards also form a part of this hospital. Dry-earth closets have been provided in place of the filthy holes in the sewer pipes, and lavatory and bathing facilities have been much improved and extended. The Second Reserve Corps Hospital on Calle Heron, Malate, had, at the date of writing, 133 cases, with a daily average of 177 cases during November and December, 1898. Convalescents only are treated in this establishment. The District Hospital at Cavite suffices for the use of the troops stationed there. At the date of the report it contained 31 cases, but averaged 47 daily during November and December, 1898. A convalescent hospital has been established on Corregidor Island, at the mouth of the harbor, 30 miles from Manila. This has accommodations for 170 patients with facilities for extending the wards to over 400 beds. A steamer makes daily trips to the island. At the date of the report there were 168 cases in this hospital, many of whom were reported to be improving rapidly; but it is said to be too early as yet to determine what benefit this hospital will be to the command. Dr. Lippincott anticipates that it will be considerable, in view of the refreshing sea air, the moderated heat and the removal from the unhealthy surroundings of Manila. The sick list of the army has been decreasing notably during the past two months. From 12.37 per cent. on Nov. 7, 1898, it fell to 8.70 on Jan. 16, 1899. Of typhoid fever there were on the former date 124 cases in the hospitals, with 13 convalescents in quarters, while on the latter date only 40 remained in the hospitals, with 20 in quarters; and of the 40 reported as in hospital, 26 were well advanced on the way to convalescence. The decline in malarial fevers has also been considerable. The hospital cases of dysentery fell from 83 to 47, but other gastro-intestinal diseases remained about the same. Smallpox prevailed to a considerable extent in the command, its continuance being due to the arrival of new and careless troops. The men were vaccinated and revaccinated with virus from Japan. Recently the city health department opened a vaccin establishment for the production of lymph, and all the Spanish prisoners underwent vaccination directly from the calf. Our regimental surgeons were authorized to have their men vaccinated in like manner if they had reason to doubt the efficiency of the supplies received from Japan, and some have taken advantage of this authority. The total number of smallpox cases recorded has been 124, with 33 deaths. Dr. Lippincott states that his preparations for field service are well in hand, in case of active hostilities (which have since occurred) with the insurgents.

...ings.—Fatal hemoptysis in child of 8, with slight indication of incipient pulmonary tuberculosis; organs were normal and no open vessel could be discovered (*Nord. Med.*, February 1) . . . Tuberculous infection on cancer of the stomach noted at autopsy . . . D'Astros states that the amount of antitoxin contained in the organs of immunized horses is infinitesimal compared to the amount in the serum (*Presse Méd.*, February 1) . . . Dermoid cyst—atheroma—removed from vocal cord of young woman (*Rev. de Laryng.*, xix, 39) . . . Eichel has constructed an apparatus that allows the gradual instillation of salt solution into the abdominal cavity, at the rate of 1 c.c. a minute, after severe hemorrhage, etc. (*Archiv. f. Klin. Chir.*, lviii, No. 1) . . . Spontaneous rupture of the posterior wall of the vagina during delivery of an 8 para, with escape of fetus into the abdominal cavity: disturbances so slight that physician was not summoned for three hours; hemorrhage fatal . . . Mahnert announces that there are liable to be numerous physiologic constrictions in the esophagus, induced by pressure of the bifurcation, etc., and that the circular strictures from corroding substances proceed from these pre-existing physiologic constrictions . . . He adds that the aorta in the embryo is on the median line, close to the esophagus in children, working its way to the left in adults and farther toward the rear in senile relaxation . . . Ries has observed three cases of a calculus in an ovary in one year; four cases on record . . . Graul has noted blisters on the hard palate, eczema scroti, salivation, etc., follow ingestion of antipyrin (*Munich Med. Woch.*, January 31) . . . Eczema a counterindication to vaccination except during epidemic of smallpox (*Presse Méd.*, February 11). . . . An oil paint found superior to mercury for injecting lymph-vessels in preparations . . . Case of spastic spinal paralysis consecutive to influenza, terminating in recovery . . . Mikulicz has found glycosuria in only one out of eighty-five cases of cholelithiasis, which refutes Exner's assertions in regard to its frequency and diagnostic value (*Deutsche Med. Woch.*, February 16) . . . E. Alvarez of Madrid has found hypnotism extremely effective in treating children (*Ann. de Med. et de Chir. Inf.*, Nov. 15, 1898) . . . Wieting recommends vertical suspension with weights on the feet, while applying a plaster walking cast for coxitis. The walking stirrup should start as high as possible . . . Lexer has observed a number of cases of extensive sequestration and phlegmons in the marrow caused by streptococcus infection, almost identic with the lesions produced by the pneumo and staphylococcus (*Cbl. f. Chir.*, February 18).

Louisville.

Mathews.—Dr. J. M. Mathews has just returned from Philadelphia, where he was called by the serious illness of a member of his family.

Potter.—Dr. Wm. Warren Potter, editor of the *Buffalo Medical Journal*, spent several days in the city, the early part of the month, as the guest of Dr. L. S. McMurtry.

Meningitis.—Kentucky has been having an epidemic of cerebrospinal meningitis, especially in Henderson County. Drs. Arch Dixon and Jas. H. Letcher, members of the State board of health, located in Henderson, called a meeting of the profession and others interested, at that place early this month for a free discussion of the subject. Thirty-nine deaths were reported in Henderson County alone, and forty-eight cases in Evansville, Ind., a few miles down the river. The largest number of cases seems to have been along the Ohio and Green Rivers and the smaller creeks and streams contributory. Several cases have occurred in Louisvslle, a popular trained nurse being one of its first victims.

Smallpox.—The prevalence of smallpox in the city and county has reached enormous proportions, until the State board of health is becoming exercised. Fortunately the epidemic has been of the very lightest form, only very few deaths being reported, but the Eruptive Hospital has been taxed to its utmost to accommodate the patients sent. Case are reported from all parts of the city, it being impossible to keep it localized in any one quarter. Several cases have reported at the out-patient departments of the several colleges, and two students have contracted varioloid. The daily papers have suppressed much in regard to it, but business feels the depression due to its prevalence.

Washington.

Health of the District.—The report of the health officer for the week ended March 4, showed the total number of deaths to have been 112, of which number 61 were white and 51 colored. At the close of the week there were 28 cases of smallpox, 59 of diphtheria and 75 cases of scarlet fever under treatment.

Physician Appointed.—Dr. Jesse Ramsburg has been appointed a substitute physician to the poor, at a salary of $30 per month.

Senator Gallinger upon the Medical Profession.—On February 28, when Senator Warren asked for unanimous consent to bring up for consideration, Senate Bill No. 5069, approved March 15, 1878, entitled an Act for the Relief of Wm. A. Hammond, late surgeon-general of the army, unanimous consent was given, and a lengthy report from the committee read, recommending that Dr. Hammond, who has been on the retired list heretofore without pay, be from this date granted the pay of his rank. Among other things the report contained the following: "Let Dr. Hammond, in event he shall satisfy the President of his right thereto, be restored to his family, his friends and his profession, freed from every taint or blemish which has hitherto been inflicted upon him under fortuitous circumstances. His brethren in the medical profession honor his name and fame, and his countrymen look upon him with pride as foremost in the ranks of American scientists, humanitarian and gentleman. Your committee believes this to be a case wherein the constitutional prerogative of Congress to redress grievances may be safely, justly and fairly exercised, especially since the President is invested by the provisions of the bill, with wise discretion. If he find against the merits and etiquette of the case, then the relief sought must be denied. If he find otherwise, and hence favorably, Dr. Hammond will then receive that reparation to which he is entitled, and which avoids, by the terms of the bill, all reflection and humiliation upon any other party concerned." Dr. Gallinger, the Senator from Vermont, arose and said: "Mr. President, I do not propose to object to any bill that is reported by the committee on military affairs, as I am not specially versed in military matters, but I do want to enter my protest against the remarkable tribute that is paid to Dr. Hammond in this report, in connection with his professional standing. I do not care to go into detail on this subject, but I want to say that the man who has been at the head of a company that has been imposing upon the people of this country the trash that Dr. Hammond has been imposing upon them, under the name of science, does not deserve, in any report made to Congress, a tribute as to his professional standing. While, as I said in the beginning, I shall not object to the passage of this bill, if the older members of the Senate and the committee on military affairs think Dr. Hammond shall, at this late day, have restored to him the emoluments of the office that he once held, I want, nevertheless, to put on record my protest against the fulsome tribute that is contained in this report in regard to his present professional standing and his relation to the medical professional at the present time." The bill was read a third time and passed.—*Congressional Record*, Feb. 28, 1899, pp. 2742-3.

Baltimore.

Report of State Lunacy Commission.—This report gives the number of insane under treatment in Maryland institutions as 2382, 770 of these being in private institutions and 152 in

county almshouses. The secretary, Dr. George J. Preston, maintains that the latter lack the appliances necessary for the care of insane patients, and argues that the State should care for all such persons. Thus only, he says, will these unfortunates receive such treatment as will give them a chance for the recovery of reason. It is interesting to have the assurance from the president of the board that no political influence is exercised in any of the benevolent or charitable institutions of the State.

CENTENNIAL CELEBRATION.—Preparations continue for the centennial celebration of the Maryland profession in April (vide JOURNAL, p. 267). An exhibition committee under Drs. Welch, Jacobs, Kelly and Whitridge is busy collecting portraits, pictures books and relics, and the exhibit will be held in the large Donavin Hall at the Johns Hopkins University. It is proposed to have a collection of all books written by Maryland physicians during the century past. Another proposition is to have a collection of all instruments invented by them; still another to have portraits grouped so as to exhibit along with the literature the various epochs of medical history. On April 26, the colleges in the eastern half of the city will be open for the reception of physicians present from Maryland and adjoining States; there will be luncheon and exhibition of cases and operations and pathologic demonstrations; the institutions in the western half of the city will be open in like manner on the 27th. The afternoons will be given up to reading of papers and discussions, but these (except Dr. Chew's presidential address) will all be by outside physicians. The evenings will be devoted to private hospitality and a banquet. The centennial or memorial volume will be a unique publication and will contain: 1. A medical chronology of the State from 1608, when John Smith, accompanied by William Russell, "Doctor of Physicke," and Anthony Bagnall, "Chirurgeon," first explored the Chesapeake and called the Patapsco the "Bolus," from the clay on its banks resembling "bole armomick." This name shows its medical source, and it is evident to those who read the original of the two voyages that the accounts Smith gives of them were written by the physicians who were the scientists of the party. 2. A medical biography, a short memoir of all the members. 3. A historic sketch of the society. 4. The proceedings of the centennial meeting.

SMALLPOX.—The following table exhibits the deaths from smallpox in Baltimore during the last twenty-four years: 1875, 1; 1878, 1; 1879, 1; 1880, 1; 1881, 11; 1882, 551; 1883, 633; 1884, 1; 1886, 1. Since 1886 there have been no deaths. The occurrence of so many cases in Washington and Alexandria has aroused our health department to most strenuous efforts of prevention, and vaccination is being done on a most extensive and compulsory scale.

EYE, EAR, AND THROAT CHARITY HOSPITAL.—The seventeenth annual report of this hospital shows that there have been treated in the in and out departments, 2552 eye cases, 714 throat, and 407 ear cases; 460 surgical operations were performed.

ASYLUM REPORT.—The 101st annual report of Spring Grove Asylum for the Insane shows that there were 535 patients, and 4 per cent. of those treated, or 26 per cent. of total admissions were cured during the year. Dr. I. Percy Wade is the superintendent.

Philadelphia.

NEW HEALTH OFFICER.—Mr. Charles H. Eustis, who was recently appointed to the position of health officer of Philadelphia, to succeed Dr. Benjamin Lee, assumed his duties on March 7.

FREE HOSPITAL BED FOR NURSES.—The treasurer of the fund for endowing a free bed for trained nurses at the Woman's Hospital announces that up to date $325.69 has been received for that purpose.

WILL'S EYE HOSPITAL.—This venerable institution has become so popular with the class who depend upon charity that it is almost impossible to care for the patients who go there for treatment. The number of new patients has increased to 12,587, while the number of visits made during the past year amounted to 46,823; 616 patients received treatment in the hospital wards.

MILK TRUST FOR PHILADELPHIA.—Certain citizens of Philadelphia have formed a company with a capital of $500,000, to be increased if necessary to $10,000,000, for the purpose of controlling the milk supply of this city. One of the promoters states that doctors all over the city have come into the trust, and where creameries are now owned by other parties, they will be bought and operated by this new company.

MEMORIAL TO DR. WILLIAM PEPPER.—At a recent meeting held in the mayor's office, representatives of the General Committee of Fifty, appointed some time ago to consider the erection of a fitting memorial to the late Dr. William Pepper, directed that the provisions be properly carried out, but the exact site for the memorial has not yet been chosen. The following committee was appointed to report to the general committee the form and nature of the memorial: Drs. J. M. Da Costa, James Tyson, Superintendent Brooks, Hon. John Wanamaker, Simon Gratz, John H. Converse and Mayor Warwick.

PREVENTION OF TUBERCULOSIS IN CATTLE.—The State veterinary society recently held a two-days session in this city. The principal address was made by Dr. N. E. Rheinhart, "Tuberculosis in Dairy Cattle and How Shall We Get Rid of It?" Dr. Rheinhart believes all cattle should be tested with tuberculin and, if diseased, should be killed.

QUARANTINE HEADQUARTERS.—At a recent meeting of the State quarantine board, it was decided that it would be very disadvantageous to remove the quarantine station now located at Marcus Hook, to any other place. It was decided to send a committee to Harrisburg for the purpose of informing Governor Stone in regard to the proposed removal. The committee is composed of Dr. Benjamin Lee, secretary of the State board of health, Dr. Boenning, State quarantine physician, and health officer Heustis.

CLIMATE OF CUBA.—Dr. John Guiteras recently gave a public address on the "Climate in Tropic Regions," and is reported as saying that there is no bacterial disease in tropic America that does not exist in the United States. The conditions alone are different and can be kept under control. With the advance of science he thought yellow fever could be driven from the American Mediterranean. Yellow fever, he stated, exists almost entirely in the larger cities; smaller towns in the interior, with the same sanitary arrangements, are usually not affected. Under present arrangements, he believes 60 per cent. of those who go to Cuba will have yellow fever, and of this number probably 5 or 6 per cent. will die.

TYPHOID FEVER.—From Monday, March 6, 1899, to Tuesday, March 7, 1899, there were 11 deaths from typhoid fever in this city. For the week ending March 11 there were reported a total of 419 new cases of typhoid fever, with 39 deaths. During the past year there have been 1538 students who have resided within the walls of Girard College, in a section of the city in which typhoid fever has been most rampant for the past twelve months. Within this time there have been 8 deaths reported among the students. There was not one death from typhoid fever. Girard College is supplied with filtered water; the rest of the city is not.

CEREBROSPINAL MENINGITIS.—Since the report of the supposed cases of cerebrospinal fever mentioned in the JOURNAL of last week, a mild epidemic has broken out in Port Richmond, a district situated in the northwestern portion of the city. In one family four cases occurred, three of which have died within the past few days and the other is seriously ill. Two cases also occurred in members of a family living next door to the first afflicted family. For the week ending March 11 there had been reported 34 cases with three deaths. As five cases were reported on March 10, the disease is gradually spreading.

MORTALITY STATISTICS.—The total number of deaths for the week ending March 11 was 520, a decrease of 46 over that of last week and an increase of 56 over the corresponding period of last year.

Questions and Answers.

OFFICE PRACTICE GUARANTEED.

TAMPA, FLA., Feb. 28, 1899.

To the Editor:—The enclosed circular was received by me today, being the first communication I have had from the author. You may know of him and his methods. If the public is ignorant of him it may be well to call attention to the matter. U. S. BIRD, M.D.

ANSWER.—This letter is a fair sample of many that have been coming to this office for some time, calling attention to this circular. The circular is a "daisy," and is calculated to catch the unwary physician who can be caught by such chaff. It bears the caption, "Better Than a Post Course," and is full of conceit, bad grammar and brazen effrontery, as these selections will show: "I am in a position to help you make your practice easier and more profitable. I can help you greatly increase the income from your practice; and if you want to devote yourself to special work alone you can give up general practice and do office work alone . . . I have the best system of rectal treatment that I know anything about, and I know them all. I know all the injection treatments that have been brought before the profession . . . And I am able to give more practical points about where and how to inject the various varieties of hernia than I could find in all that has been said on the subject . . . All hernias are curable that can be reduced and retained with a truss—about 90 per cent. . . . Many doctors take post-graduate work for some special knowledge which costs, including loss of time, several hundred dollars. I offer you at home what I believe to be practically better on these branches, than a post-graduate course in any school . . . There can be no failure in the work unless one is too low in skill and energy to make an intelligent effort to use it . . . For the small fee of $15 I will give you, in printed pamphlet form, the formulæ with complete directions for injections, operations, applications and treatment in these specialties. I now include with my work the formula for 'The Woman's Specific.' It is the best combination of remedies for most non-surgical diseases of women. It would add very much to your success in this line. I also give the Best Treatment for Gonnorhea. It would make your treatment of this disease a pleasure. The work is copyrighted, so you can not be deprived of its benefits by publication."

That the circular Dr. Bird encloses could have any effect would appear to indicate that some physicians are as easily gulled as the average man, while it would seem that one with even a smattering of medical knowledge would know the claims and statements of this fellow were, to say the least, absurd. One would imagine that a physician who knew so much about special office work, and could give points on how to build up office practice would have a fine office practice himself; and he has, sending circulars to the medical men of the country, and reaping a good reward for his efforts. When inquired into, it will reveal another case of a bald-headed men selling hair restoratives, and will illustrate in a very happy manner the truth of the old proverb, the last part of which is, "and his money are soon parted."

WIDAL TEST.

CATTLETTSBURG, KY, March 7, 1899.

To the Editor:—Will you tell me just what the Widal reaction or test for typhoid fever is. I have not been able to find it in my JOURNAL, as I began taking it after you had fully described it. Yours,

W. W. MORTON, M.D.

ANSWER.—Welch (vide JOURNAL, Aug. 14, 1897, p. 304) says that Widal, in his first communication, described both the slow or macroscopic and the quick or microscopic. For each of these he recommended a dilution of one part of blood, or blood serum, to ten parts of the fluid containing the culture. The macroscopic method consists in adding the blood or serum to be tested either to a young bouillon culture of the typhoid bacillus, or to sterile bouillon, which is then inoculated with the bacillus. In the former case the reaction usually appears within two or three hours and consists in clarification of the previously turbid fluid, and the formation of a clumpy sediment composed of accumulated bacilli. In the latter case the tube is placed in the incubator and the reaction is manifest in fifteen hours by the growth of the bacilli in the form of a sediment at the bottom of the tube, the fluid remaining nearly or quite clear. Widal's microscopic test, and to which he gave the preference, was made by mixing the blood or serum with a young bouillon culture or with a suspension in bouillon or salt solution of a fresh growth of the typhoid bacillus and examining a drop or two of the mixture at once under the microscope. With a dilution of one to ten, this microscopic typhoid reaction appears, as a rule, immediately or within a few minutes, and is evidenced by loss of motility and by clumping of the bacilli into masses of various sizes and shapes. The dried blood method is one used more extensively in this country than in Europe, and employed by Musser and Swan (Ibid, p. 309) as follows: A drop of blood is taken from the previously cleansed finger of the patient suspected to be suffering from typhoid fever, and this drop allowed to dry on a cover-glass or microscopic slide and then taken to the laboratory. The dried blood is then dissolved in one drop of distilled water, at the time of making the test. One platinum loopful of this solution is added to nine platinum loopfuls of a pure bouillon culture of the typhoid bacillus, not more than twenty-four hours old, and this mixture is then studied in the hanging drop; if motility is present in the evening this preparation is put aside in a warm room until morning when, if motility is still found and there is no formation of clumps, he considers the reaction absent.

CONSULTANTS.

ASHTON, R. I., March 10, 1899.

To the Editor:—I would be thankful for your views on the following: On A's recommendation B is called in consultation in A's case. A second consultation takes place in the interval of a week. B tells the patient and friends that he and A are in complete accord and endorses A's treatment with slight, insignificant modification. After a few days A is notified by the patient's friends not to call again, as they are sending for B. B takes charge of the case without communicating with A. It is not here considered in accordance with professional etiquette for a physician to take the case of another with whom he has been in consultation without the latter's consent, and most practitioners, I among them, would not take it even then. QUÆRENS.

ANSWER—A consultant called in as B was in this instance ought not to accept an invitation to take charge of the case. This is a rule, however, that circumstances may modify. Instances occur where B could not do otherwise than take the case, although these circumstances occur but seldom. Even if this were one of the cases, B ought not to have accepted the call without first communicating with A. There can be no hard and fast rule laid down, except that which goes by the name "Golden"—Do unto others as you would have others do unto you.

CINNAMIC ACID.

SUTTER CREEK, CAL., March 4, 1899.

To the Editor:—In the JOURNAL for Feb. 18, 1899, under "Practical Notes," there is an article on the "Success of Cinnamic Acid in Tuberculosis." The remedy has been used by A. Landerer, and the article was from the *Presse Med.* of January 7. Can you give any more particulars about the remedy, or direct me where I can get them? Also can you tell me where I can get the sodium cinnamate? He spoke about injecting the solution into a vein. Is this absolutely necessary, and would not the cellular tissue do as well? Yours truly, L. C. JONES, M.D.

ANSWER.—We would refer the inquirer to "Mittheilungen aus Krähenbad bei Alpersbach im Schwarzwald. Heilanstalt für innere u. Chirurgische Tuberculose." Kostritz, 1897. This can probably be obtained through some medical bookseller dealing in foreign publications. Some of our readers may be able to give further data.

The Public Service.

Movements of Army Medical Officers under orders from the Adjutant-General's Office to March 8, 1899.

Aristides Agramonte, acting asst.-surgeon, now in Havana, Cuba, to report to the commanding general for assignment.

E. W. Ames, acting asst.-surgeon, from Huntsville, Ala., to the general hospital at Savannah, Ga.

Roger P. Ames, acting asst.-surgeon, from New Orleans, La., to Havana, Cuba, for assignment.

C. L. G. Anderson, acting asst.-surgeon, from the hospital train at Atlanta, Ga., to the general hospital, Savannah, Ga.

Thos. B. Anderson, acting asst.-surgeon, from the hospital at Ft. Myer, Va., to duty on the "Relief" en route to Manila, where he will report for assignment.

Aaron H. Appel, major and surgeon U.S.A., from temporary duty at Ft. Hamilton, N. Y., to Jackson Bks., New Orleans, La.

Leona M. Archey, lieutenant and asst.-surgeon 1st N. C. Inf., resignation accepted.

Wm. B. Banister, major and brigade surgeon Vols. (captain and asst.-surgeon U.S.A.), relieved from the 2d Army Corps when his services can be spared, to duty at Ft. Warren, Mass.; to be honorably discharged from volunteer service, to date April 20, 1899.

C. E. Bentley, acting asst.-surgeon, from Little Rock, Ark., to duty at Ft. Logan H. Roots, Ark.

John T. Booth, acting asst.-surgeon, from the hospital at Ft. Myer, Va., to Cincinnati, Ohio.

Wm. C. Borden, major and brigade surgeon Vols. (captain and asst.-surgeon U.S.A.), honorably discharged from volunteer service, to take effect March 31, 1899.

A. H. Bowman, captain and asst.-surgeon 1st S. Dak. Inf., resignation accepted, Feb. 27, 1899.

Henry H. Bradley, acting asst.-surgeon, from Camp Columbia, Havana, Cuba, to the general hospital, Savannah, Ga.

Wm. W. Calhoun, acting asst.-surgeon, from Ft. Ontario, N. Y., to Havana, Cuba, for assignment.

Wm. J. Calvert, lieutenant and asst.-surgeon U.S.A., to proceed to Ft. McHenry, Md., to accompany the 6th U.S. Artillery to Manila.

Marshall M. Cloud, lieutenant and asst.-surgeon U.S.A., from Camp Shipp, Ormiston, Ala., to his station at Ft. Sill, Okla.

Fred. J. Combe, major and brigade surgeon Vols., leave of absence granted, on expiry of which to proceed to Santiago, Cuba, for assignment.

Chas. G. Cruikshank, acting asst.-surgeon, from Albany, Ga., to Havana, Cuba, for assignment.

J. J. Curry, acting asst.-surgeon, from the hospital at Ft. Myer, Va., to the general hospital, Savannah, Ga.

Walter H. Dade, acting asst.-surgeon, from Chicago, Ill., to Ft. Crook, Neb., to accompany the 16th U. S. Inf. to Manila.

Carl R. Darnall, lieutenant and asst.-surgeon U.S.A., from duty at Huntsville, Ala., to Havana, Cuba.

Jas. C. Dougherty, acting asst.-surgeon, to duty on the transport "Burnside."

Guy L. Edie, major and brigade surgeon Vols. (captain and asst.-surgeon U.S.A.), honorably discharged from volunteer service, to take effect March 31, 1899.

Henry W. Eliot, acting asst.-surgeon, from Willett's Point, N. Y., to Madison Bks., N. Y., to accompany the 9th U.S. Inf. to Manila, reporting to the commanding general for assignment on his arrival there.

P. G. H. Farrell, captain and asst.-surgeon 1st Cal. Inf., resignation accepted, to take effect March 13, 1899.

Henry C. Fisher, captain and asst.-surgeon U.S.A., from duty at Platts-

burg Bks., N. Y., to accompany the 9th U.S. Inf. from Madison Bks., N. Y., to Manila.

Chas. J. Fitzgerald, acting asst.-surgeon, from Dorchester, Mass., to Madison Bks., N. Y., to accompany the 9th U.S. Inf. to Manila, reporting on arrival to the commanding general for assignment.

Chas. Fitzpatrick, acting asst.-surgeon, to duty in Philadelphia, Pa., in connection with the mustering out of troops.

Chas. E. B. Flagg, captain and asst.-surgeon U.S.A., from the 2d Army Corps, when his services can be spared, to duty at Columbus Bks., Ohio.

John S. Fogg, acting asst.-surgeon, from the Josiah Simpson Hospital near Ft. Monroe, Va., to the "Relief," for duty in the Philippine Islands.

Clyde S. Ford, lieutenant and asst.-surgeon 4th U.S.V. Inf., commission vacated to accept that of asst.-surgeon U.S.A.

Jos. H. Ford, lieutenant and asst.-surgeon U.S.A., from the general hospital, Ft. McPherson, Ga., to the general hospital, Savannah, Ga.

Chas. M. Gandy, major and chief surgeon Vols. (captain and asst.-surgeon U.S.A.), honorably discharged from volunteer service, to take effect March 22, 1899.

Robert J. Gibson, major and surgeon U.S.A., leave of absence granted.

Lewis T. Griffith, acting asst.-surgeon, from Washington, D.C., to Ft. Ontario, N. Y.

Geo G. Groff, major and brigade surgeon Vols., honorably discharged, to take effect April 30, 1899.

Henry M. Hallock, captain and asst.-surgeon U.S.A., sick leave granted.

John T. Halsel, acting asst.-surgeon, from Ft. Sam Houston, Texas, with the 6th U.S. Inf. to Manila.

John Hamilton, lieutenant and asst.-surgeon 49th Iowa Inf., resignation accepted, Feb. 13, 1899.

Herbert I. Harris, acting asst.-surgeon, previous orders to Madison Bks., N. Y., revoked.

H. S. T. Harris, major and brigade surgeon Vols. (captain and asst.-surgeon U.S.A.), honorable discharge from volunteer service ordered and revoked, and to proceed to Ft. Crook, Neb., to accompany the 16th U.S. Inf. to Manila.

Eugene H. Hartnett, lieutenant and asst.-surgeon U.S.A., to proceed to Ft. McHenry, Md., to accompany the 6th U.S. Art. to Manila.

Frederick M. Hartsock, lieutenant and asst.-surgeon U.S.A., leave of absence extended.

Elmer E. Heg, major and brigade surgeon Vols., to Havana, Cuba, for assignment.

Brainard S. Higley, lieutenant and asst.-surgeon U.S.A., from Ft. Niobrara, Neb., to San Francisco, Cal., for assignment to duty with troops sailing on the first available transport for Manila, where he will report for assignment.

Evan P. Howell, lieutenant and asst.-surgeon 5th U.S.V. Inf. sick leave of absence granted and extended.

Ashton B. Heyl, captain and asst.-surgeon U.S.A., to close the general hospital at Ft. Thomas, Ky., and report for duty as surgeon of that post.

Geo. F. Jueneman, acting asst.-surgeon, from Huntsville, Ala., to duty at the general hospital, Savannah, Ga.

Zadock T. Kalbough, lieutenant and asst.-surgeon 2d West Va. Inf., leave of absence extended.

Wm. P. Kendall, major and brigade surgeon Vols., to proceed to Plattsburg Bks., N. Y., and accompany the 21st U.S. Inf. to Manila.

Frank P. Kenyon, acting asst.-surgeon, from Plymouth, Mass., to Ft. Porter, N. Y., to accompany the 28th U.S. Inf. to Manila.

Wm. J. Kernochan, major and brigade surgeon Vols., honorable discharge, to take effect March 30, 1899.

D. H. Lamb, acting asst.-surgeon, from the hospital, Ft. Myer, Va., to Owosso, Mich.

Henry H. Lee, major and brigade surgeon, honorable discharge, to take effect March 22, 1899.

Wm. F. Lewis, captain and asst.-surgeon U.S.A., leave of absence granted.

Chas. Lynch, captain and asst.-surgeon U.S.A., from duty at Fort Point, Galveston, Texas, to accompany the 6th U.S. Inf. to Manila.

Donald MacLean, Jr., acting asst.-surgeon, from Washington, D. C., to the general hospital, Savannah, Ga.

James W. Madara, acting asst.-surgeon, from Washington, D. C., to New York City to duty on the "Relief" and for assignment in Manila.

John C. Martin, major and brigade surgeon, Vols, honorably discharged.

Louis M. Maus, lieutenant-colonel and chief surgeon, Vols. (major and surgeon, U.S.A.), previous orders amended to make his discharge from volunteer service take effect April 21, 1899.

James H. McCall, acting asst.-surgeon, from the Josiah Simpson Hospital, Ft. Monroe, Va., to duty with troops at Greenville, S. C.

Champe McCulloch, Jr., captain and asst.-surgeon, U.S.A., to Ft. Barrancas, Fla., from Huntsville, Ala.; leave of absence granted.

W. A. McVean, acting asst.-surgeon, to Jefferson Barracks, Mo., from the general Hospital, Ft. Thomas, Ga.

Edgar A. Mearns, major and chief surgeon, Vols. (captain and asst.-surgeon U.S.A.), honorably discharged from volunteer service to take effect March 22, 1899.

H. E. Ménage, acting asst.-surgeon, from Ft. Sam Houston, Texas, to accompany the 6th U.S.Inf. to Manila.

Clarence B. Millhoff, lieutenant and asst.-surgeon, U.S.A., from Washington Barracks, D. C., to the general hospital, Savannah, Ga.

C. L. Mullins, captain and asst.-surgeon, 1st Neb. Inf., resignation accepted to date Feb. 24, 1899.

Herman Myer, acting asst.-surgeon, from duty in Santiago to Havana, Cuba, for assignment.

George J. Newgarden, captain and asst.-surgeon, U.S.A., sick leave granted.

Charles D. Noble, acting asst.-surgeon, to duty at Columbus Bks, Ohio.

John L. Phillips, major and chief surgeon, Vols. (captain and asst.-surgeon, U.S.A.), from the 2d Army Corps to Ft. Thomas, Ky.; honorably discharged from the volunteer service, to take effect April 20, 1899.

James E. Pilcher, major and brigade surgeon, Vols. (captain and asst. surgeon, U.S.A.), honorably discharged from volunteer service, to take effect March 22, 1899; leave of absence granted.

Junius L. Powell, major and surgeon, U.S.A., from duty at Augusta, Ga., to return to his station, Ft. Riley, Kan.

Henry I. Raymond, major and brigade surgeon, Vols., from the 2d Army Corps to Ft. Porter, N. Y., to accompany the 13th U.S.Inf. to Manila.

Shannon Richmond, acting asst.-surgeon, from Camp Witherell, Greenville, S. C., to Huntsville, Ala., to accompany the 16th U.S.Inf. to Manila.

George W. Roberts, acting asst.-surgeon, from Washington, D. C., to Ft. Porter, N. Y., to accompany the 13th U.S.Inf. to Manila.

Samuel Q. Robinson, major and surgeon, U.S.A., from the Department of Santiago, Cuba, to Ft. Reno, Okla.; leave of absence extended.

Edward R Schreiner, lieutenant and asst.-surgeon, U.S.A., from the 2d Army Corps to Plattsburg Barracks, N. Y.

George A. Sheldon, acting asst.-surgeon, from Washington, D. C., to Havana, Cuba, for assignment.

George K. Sims, acting asst.-surgeon, leave of absence granted, on the expiry of which he will accompany the 6th U.S.Inf. to Manila.

William Stephenson, major and brigade surgeon, vols. (captain and asst.-surgeon, U.S.A.) from Santiago, Cuba, to New York City as attending surgeon and examiner of recruits; honorably discharged from volunteer service, to take effect April 30, 1899.

James B. Stewart, acting asst.-surgeon, from Washington, D. C., to Bradford, Pa.

Hugh L. Taylor, acting asst.-surgeon, from Ft. Clark, Texas, to Havana, Cuba, for assignment.

Benjamin L. Ten Eyck, captain and asst.-surgeon, U.S.A., from Ft. Riley, Kan., to Ft. Niobrara, Neb.

Henry D. Thompson, major and brigade surgeon, Vols., to Havana, Cuba for assignment.

William J. Wakeman, major and brigade surgeon, Vols. (captain and asst.-surgeon, U.S.A.) to Philadelphia, Pa., as attending surgeon and examiner of recruits; honorably discharged from volunteer service, to take effect April 30, 1899.

Philip G. Wales, major and brigade surgeon, Vols. (captain and asst.-surgeon, U.S.A.) from the 2d Army Corps on the closure of the hospital at Greenville, S. C., to Ft. Niobrara, Neb.; honorably discharged from volunteer service, to take effect April 26, 1899.

Samuel L. Waterhouse, lieutenant and asst.-surgeon, U.S.A., from the general hospital, Ft. McPherson, Ga., to general hospital, Savannah, Ga.

Henry E. Wetherill, lieutenant and asst.-surgeon, U.S.A., from supply duty at Huntsville, Ala., to Plattsburg Barracks, N. Y., to accompany the 21st U.S. Inf. to Manila.

William L. Whittington, acting asst.-surgeon, to Ft. Sam Houston, Texas, to accompany the 6th U.S. Inf. to Manila.

Charles Willcox, captain and asst.-surgeon, U S.A., to Ft. Bliss, Texas, from duty in Porto Rico.

Charles E. Woodruff, major and brigade surgeon, Vols., leave of absence granted.

Marlborough C. Wyeth, major and brigade surgeon, Vols., to Havana, Cuba, in charge of medical supply depot to be established there.

Movements of Navy Medical Officers.—Changes in the medical corps of the U.S. Navy for the week ending March 11, 1899.

Rear Admiral A. S. Crowninshield, W. K. Van Reypen, R. B. Bradford, E. Stewart, G. W. Melville, P. Hichborn, M. T. Endicott, C. O'Neil, chiefs of bureau in the navy department, rear admirals from March 3, 1899.

Marine-Hospital Changes.—Official List of Changes of Stations and Duties of Commissioned and Non-Commissioned Officers of the U.S. Marine-Hospital Service, for the seven days ended March 9, 1899.

P. A. Surgeon J. C. Cobb, to proceed to Savannah, Ga., for special temporary duty.

Asst.-Surgeon L. D. Fricks, to report at Washington, D. C. To proceed to the Reedy Island quarantine station and report to the medical officer in command for temporary duty.

Acting Asst.-Surgeon Carl Ramus, to proceed to the Cape Charles quarantine station and report to the medical officer in command for duty and assignment to quarters.

Hospital Steward G. H. Brock, to proceed to New Orleans, La., and report to the medical officer in command for duty and assignment to quarters.

Hospital Steward F. L. Brown, to proceed to the Cape Charles quarantine station and report to the medical officer in command for duty and assignment to quarters.

Hospital Steward Charles Slough, to proceed to the San Francisco qurrantine station and report to the medical officer in command for duty and assignment to quarters.

Hospital Steward R. F. Troxler, to proceed to San Francisco, Cal., and report to the medical officer in command for duty and assignment to quarters.

APPOINTMENTS.

T. Farrar Richardson of Louisiana, W. W. King of Michigan, Frank J. Thornbury of New York, and Carl Ramus of Illinois, commissioned as assistant-surgeons, March 9, 1899.

Wallace B. Hunter of Pennsylvania, to be acting asst.-surgeon for duty at the port of Erie, Pa., March 9, 1899.

Robert F. Troxler of Kentucky, to be junior hospital steward, March 4, 1899.

CHANGE OF ADDRESS.

Ashton, T. G., from 1533 Pine to 128 S. 17th St., Philadelphia, Pa.
Babcock, H. S., from 609 Stocking Av. to 507 Summit St., Toledo, Ohio.
Bremmer, H. A., from Merritt to Ashton, Ill.
Cavanaugh, J. J., from Ft. Scott to Garland, Kas.
Cheshire, M. U., from Anamosa to Marshalltown, Iowa.
Carver, W. F., from Murry to Fort Dodge, Iowa.
Chambers, A. T., from 633 N. Calhoun to 677 Columbia, Baltimore, Md.
Denison, C. E., from 113 W. 12th to 215 W. 34th, New York City.
Fanner, J. C., from Masonic Temple to 1315 Clinton Av., Minneapolis.
Feltwell, A. L., from Philadelphia to 1202 12th, Altoona, Pa.
Harbeck, J. H., from Cuernavca, Mex., to Boulder, Colo.
Horner, C. P., from 2407 Prairie Av. to Provident Hospt., 36th and Dearborn Sts., Chicago.
Luther, C. V., from Saybrook, Conn., to South Orange, N. J.
Lee, B., from 1532 Pine to 1420 Chestnut, Philadelphia, Pa.
McKeldin, R. A. W., from 1242 Md. Av. N. E., to 56 N. Y. Av. N. W., Washington, D. C.
Montizambert, F., from Quebec to Toronto, Can.
Miller, R. W., from 102 Henne Bldg. to 414 Laughlin Bldg., Los Angeles.
Noren, G. P., from Geneseo to Kewanee, Ill.
Rogers, A. E., from Chatford to Havelock, Iowa.
Reekie, J. S., from Melbourne, Australia, to Sanitarium Summer Hill, Sydney, N. S. W.
Stewart, J. L., from 375 S. Wood to 684 W. Monroe, Chicago.
Wood, E. S., from 524 Michigan Av. to 600 Cherokee St., Leavenworth, Kansas.